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901:10-1-01 **Definitions.**

As used in Chapters 901:10-1 to 901:10-6 of the Administrative Code, the definitions contained in Chapter 903. of the Revised Code and the following definitions are applicable:

(A) Act means the Federal Water Pollution ~~Pollution~~ Control Act set forth at 33 USC sections 1251 to 1387.

(B) Administrator means the administrator of the United States environmental protection agency.

(C) Agricultural drainage well means a class five underground injection control well that receives or has the potential to receive drainage from irrigation tail-waters, animal yards, feedlots or dairy runoff and any related agricultural field runoff. An injection well is any bored, drilled, or driven shaft or dug hole whose depth is greater than the largest surface dimension.

(D) Agricultural stormwater discharge means runoff generated by precipitation that drains over terrain used for agriculture as defined in section 1.61 of the Revised Code that conveys manure to waters of the state, provided that the manure has been applied in accordance with site specific nutrient management practices that ensure appropriate agricultural utilization of nutrients in manure in compliance with the best management practices set forth in Chapter 901:10-2 of the Administrative Code.

(E) Agronomic rate means a rate of application of nutrients from any source to the land or an amount of nutrients removed by crop based on:

(1) Nutrient content of the manure to be applied;

(2) Nutrient needs of the current or planned crops; and

(3) Nutrient holding capacity of the soil.

(F) Ammonia (as N) means ammonia reported as nitrogen and is listed with approved methods of analysis in table 1B at 40 CFR 136.

(G) Applicant means a person applying for a permit, certificate, or submitting a claim of trade secrecy to the director.

(H) Appropriate design plan means a construction plan for a manure storage or treatment facility that has been accepted by the department as meeting best management

practices and recognized industry standards for construction. This includes pre-engineered design plans for the design and construction of manure storage or treatment facilities that have been shown by the engineer, manufacturer, or distributor to conform to the requirements of Chapter 903. of the Revised Code.

(I) Appropriate examination means an examination that has been approved by the department.

(J) Appropriate training program means a training program that has been approved by the department.

(K) Aquifer means an underground consolidated or unconsolidated geologic formation or series of formations that are hydraulically connected and that have the capability to receive, store, and yield useable quantities of water to wells. Aquifer does not include perched groundwater.

(L) Application means the form and supporting documents used by an applicant to apply for an Ohio permit under this chapter.

(M) Average precipitation means the precipitation over the length of a storage period.

(N) Beneficial organisms mean predators, parasites, or pathogens that, during their life cycle, are used to suppress pest organisms or are otherwise beneficial.

(O) Best management practice (BMP) means a practice or combination of practices that is determined to be the most effective and practicable including technological, economic, and institutional controls as a means of complying with the applicable standards of Chapter 903. of the Revised Code. BMPs may include structural and nonstructural practices, conservation practices, prohibition of practices, schedules of activities, operation and maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the state. BMPs also include treatment requirements, operating procedures, and practices to control facility site runoff, spillage, or leaks, sludge or waste disposal or drainage from raw material storage.

Comment: For purposes of this chapter, institutional controls such as proprietary controls are those that involve legal instruments placed in the chain of title on the site of the property. Such proprietary controls include but are not limited to: easements, covenants, well drilling prohibitions, zoning restrictions and special building requirements.

(P) Biosecurity refers to the policies and measures taken for protecting food supply and agricultural resources from contamination. Biosecurity also refers to those

measures taken to keep disease agents out of populations, herds or groups of animals where they do not already exist. Significant areas on a facility in biosecurity are sanitation, isolation of incoming or returning animals, cleaning and disinfection and traffic control to limit disease spread between all facilities in the production unit.

(Q) BOD5 means five-day biochemical oxygen demand and is listed with approved methods of analysis in table 1B at 40 CFR 136.

(R) Buffer strip means setback of an area of permanent dense vegetation, often planted along the edge or the contour of a land application site or a slope of the field usually for management practices, including practices to slow the flow of water runoff or enhance water filtration, and minimize the risk of any potential nutrients or pollutants from leaving the field and reaching surface waters. Types of buffers include filter strips, field borders, contour grass strips, vegetated cover and riparian buffers. Types of buffers include those described in "Ohio Natural Resource Conservation Service, Conservation Practice Standards Section IV, Field Office Technical Guide" which includes the following:

(1) "Filter Strips/Areas, No. 393," June 2002;

(2) "Riparian Forest Buffer, No. 391," March 1997;

(3) "Field Border, No. 386," June 2002; and

(4) "Contour Buffer Strips, No. 332," June 2002.

(S) Certified livestock manager means a person that has been duly certified by the department and currently holds a valid livestock manager certification.

(T) Cold water means waters designated by the Ohio environmental protection agency as set forth in Chapter 3745-1 of the Administrative Code.

(U) Compliance plan means:

(1) A written plan prepared and submitted by the owner or operator by registered or certified mail; and

(2) A statement prepared by the owner or operator that describes the actions the owner or operator will take to eliminate the deficiencies that resulted in noncompliance and includes a schedule stating the time by which each of the

actions shall be accomplished to achieve compliance.

(V) Construction, for the purposes of stormwater construction permits, means the initial disturbance of soils associated with clearing, grading or excavating activities.

(W) Department means the Ohio department of agriculture.

(X) Design capacity means the ability to house or maintain the total number of animals confined or to be confined in open lots, housed lots, feedlots, confinement houses, stall barns, free stall barns, milkrooms, milking centers, cowyards, medication pens, animal walkways, and stables.

(Y) Dikes mean both dikes and embankments.

(Z) Director means the director of the Ohio department of agriculture or the director's duly authorized representative.

(AA) Discharge means to add any pollutant or combination of pollutants from a point source to waters of the state.

(BB) Distribution and utilization methods mean written methods of how manure will be distributed and utilized in a manner that may include land application by a person other than the owner or operator and conducted in accordance with rule 901:10-2-11 of the Administrative Code.

(CC) Ditch means an excavation, either dug or natural, for the purpose of drainage or irrigation.

(DD) Diversion means a channel constructed across the slope for the purpose of intercepting surface runoff.

~~(EE) Drainageway means an area of short-term low-gradient non-erosive concentrated surface water runoff which occurs during or shortly after precipitation events and is not a river, stream, ditch or grassed waterway. Drainageway areas are normally planted with crops each year.~~

~~(FF)~~(EE) Draft action means a written statement that gives the director's intention with respect to the issuance of any permit, including a NPDES permit or a general permit, concerning which persons authorized by regulation or by section 903.09 of the Revised Code may file comments or request a public meeting, but which will not be the subject of an adjudication hearing before the director.

~~(GG)~~(FF) Drinking water source protection area for a public water system means:

(1) For a ~~A~~ public water system using groundwater, ~~and~~ the surface and subsurface area surrounding the well(s) of the ~~a~~ public water system that will provide water from an aquifer to the well(s) and that is delineated or endorsed by the Ohio environmental protection agency under Ohio's wellhead protection and source water assessment and protection programs; or.

(2) For a ~~A~~ public water system using surface water, ~~and~~ the drainage area contributing surface water runoff to the water intakes of the public water system ~~and~~ that is delineated or endorsed by the Ohio environmental protection agency under Ohio's source water assessment and protection program.

~~(HH)~~(GG) Effluent limitation means any restriction imposed by the director on quantities, discharge rates, and concentrations of pollutants which are discharged from point sources into waters of the state.

~~(II)~~(HH) Fabricated structure means a type of manure storage or treatment facility constructed of engineered, man-made materials such as cast-in-place reinforced concrete, pre-cast concrete, masonry, timber, steel, fiberglass or plastic but does not mean a manure storage pond, a manure treatment lagoon or any of the components of either a manure storage pond or manure treatment lagoon such as described in paragraph (A)(9)(c)(ii) of rule 901:10-2-06 of the Administrative Code. A fabricated structure may contain either solid or liquid manure.

~~(JJ)~~(II) Facility means concentrated animal feeding operation and has the same meaning as division (F) of section 903.01 of the Revised Code and refers to those operations that are subject to the federally enforceable provisions of a permit to operate into which NPDES permit provisions have been incorporated. Facility shall also mean concentrated animal feeding facilities and has the same meaning as division (E) of section 903.01 of the Revised Code and refers ~~refer~~ to those facilities that are subject to permits to operate.

~~(KK)~~(JJ) Fact sheet means the statement of facts provided for in paragraph (A) of rule 901:10-6-05 of the Administrative Code relative to issuance of a NPDES permit.

(KK) Field surface furrow means an area of short-term low-gradient non-erosive concentrated surface water runoff which occurs during or shortly after precipitation events and is not a river, stream, ditch or grassed waterway. Field surface furrows are areas that are normally planted with crops each year.

(LL) Fecal coliform means fecal coliform bacteria and is listed with approved methods of analysis in table 1A at 40 CFR 136.3.

(MM) Floodplain means the area designated by the federal emergency management agency adjoining any river, stream, watercourse or lake that has been or may be covered by floodwater.

(NN) Floodway means the channel of a river or watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than the allowable rise as designated by the federal emergency management agency, not exceeding one foot.

(OO) Grassed waterway means a natural or constructed channel that is shaped or graded to required dimensions and established with suitable vegetation to filter and convey runoff from fields, terraces, diversions or other concentrated water runoff without causing erosion or flooding.

(PP) Ground water means any water below the surface of the earth in a zone of saturation, but does not include perched water.

(QQ) Injection means the placement of manure beneath the surface of the soil in the crop root zone but not extending beyond the boundary of a land application site and using equipment specifically designed for this purpose.

(RR) Installation means the permanent fabrication, erection or installation of a manure storage or treatment facility or manure control equipment at the location where the manure storage or treatment facility or manure control equipment is intended to be used. The term does not include the following:

(1) The dismantling of existing equipment and control devices;

(2) The ordering of equipment and control devices;

(3) Off-site fabrication; and

(4) Site preparation.

(SS) Integrated pest management means a sustainable approach to pest management that combines the use of prevention, avoidance, monitoring and suppression strategies that minimizes and reduces the activity and presence of insects and rodents and

keeps such activity and presence below economically damaging levels, minimizing chemical use to reduce pest resistance and the harmful effects of pest control on human health and environmental resources. Integrated pest management includes management, biological controls and the judicious use of chemical controls.

(TT) Karst terrain means an area where karst topography, including the characteristic surface and subterranean features, has developed as the result of dissolution of limestone, dolomite or other soluble rock. Characteristic physiographic features present in karst terrains may include the following:

(1) Sinkholes;

(2) Sinking streams;

(3) Caves.

(UU) Land application sites or land application areas means land under the control of a concentrated animal feeding operation owner or operator, whether it is owned, rented, leased or subject to access agreement with the landowner, or otherwise under the control of the owner or operator, to which manure, or process wastewater from the production area is or may be applied.

(VV) Liquid manure means manure containing more than or equal to eighty percent liquid.

(WW) Livestock manure broker means a person who is in the business of buying, selling, or land applying manure.

(XX) Livestock manure applicator means a person who is in the business of transporting and land applying manure.

(YY) Manure application means the placement of manure within the boundaries of a land application site by:

(1) Spraying or spreading onto the land surface;

(2) Injection below the land surface in the crop root zone using equipment specifically designed for this purpose; or

(3) Incorporation into the soil by means of the mixing of manure with the surface soil using standard agricultural practices, such as tillage.

(ZZ) Manure management plan (MMP) means a written plan that adheres to the terms in paragraph (A)(1) of rule 901:10-2-07 of the Administrative Code.

[Comment: A person preparing a manure management plan is advised to refer to guidance on comprehensive nutrient management plans that have similar components for manure management plans. Comprehensive nutrient management plan standards are prepared and published by the Natural Resource Conservation Service, an agency of the United States department of agriculture. However, the scope of comprehensive nutrient management plans exceeds the requirements of Chapter 903. of the Revised Code and rules of the chapter.]

(AAA) Manure residuals means settled manure solids combined with varying amounts of water and dissolved materials that remain after some form of treatment.

(BBB) Manure spill means any unexpected, unintended, abnormal or unapproved dumping, leakage, drainage, seepage, discharge, release or other loss of manure. The term does not include releases to impermeable surfaces when the substance does not migrate off the surface or penetrate the surface and enter the soil.

(CCC) Manure storage or treatment facility means any excavated, diked or walled structure or combination of structures designed for the biological stabilization, holding or storage of manure. These facilities include manure storage ponds, manure treatment lagoons, fabricated structures, lagoons, manure storage sheds, stockpiles, under house or pit storages, and composting areas.

(DDD) Manure storage pond means a type of manure storage or treatment facility consisting of an earthen impoundment made by constructing an embankment and/or excavating a pit, the purpose of which is to store or settle manure. A manure storage pond contains liquid manure.

(EEE) Manure treatment lagoon means a type of manure storage or treatment facility consisting of an earthen impoundment made by constructing an embankment and/or excavating a pit, the purpose of which is to biologically treat manure. A manure treatment lagoon contains liquid manure.

(FFF) Modification means one or more of the following:

(1) A material and substantial alteration of the facility including an increase of the number of animals that exceed the design capacity of an existing facility by ten per cent or more in excess of the design capacity set forth in the current permit, provided that in no case during a five year period shall the facility's or facility's capacity be modified to increase by more than ten per cent in the

aggregate.

(2) Any structural change to the facility that will alter compliance with siting criteria as set forth in rule 901:10-2-02 of the Administrative Code;

(3) Any changes to the insect and rodent ~~and~~ control plan approved by the director except as set forth in paragraphs (E) and (F) in rule 901:10-2-19 of the Administrative Code;

(4) Changes described in rule 901:10-1-09 of the Administrative Code for NPDES operations; or

(5) Changes to the manure storage or treatment facility that result from any of the following:

(a) An expansion of the existing facility by ten per cent or more in excess of treatment or storage capacity;

(b) A significant change in treatment technology; or

(c) Closure of part of the manure storage or treatment facility and termination of permit coverage under Chapter 903. of the Revised Code.

(GGG) Multi-year phosphorus application means phosphorus applied to a field in excess of the crop needs for that year in accordance with appendix e of rule 901:10-2-14 of the Administrative Code.

(HHH) Neighboring residence means any occupied permanent dwelling acquired by its current owner prior to the application for a permit to install a new animal feeding operation or prior to the initial construction of an animal feeding operation for which an application for a permit to install expansion or modification has been submitted. A neighboring residence does not include any dwelling owned by the owner or operator of the production area of the facility at the time the permit to install application is submitted.

(III) New discharger means any building, structure, facility, or installation:

(1) From which there is or may be a discharge of pollutants;

(2) That did not commence the discharge of pollutants at a particular site prior to August 13, 1979;

(3) Which is not a new source; and

(4) Which has never received a final effective NPDES permit for discharges at that site.

(JJJ) New source is defined at 40 CFR 122.2 and new source criteria are as defined at 40 CFR 122.29(b).

(KKK) Nitrate (as N) means nitrate reported as nitrogen and is listed with approved methods of analysis in table 1B at 40 CFR 136.

(LLL) Nonpoint source pollution means any source of pollutants other than those defined as point sources. Nonpoint sources include but are not limited to in-place contaminants, direct wet and dry deposition, groundwater inflow, and overland runoff. Nonpoint source pollution is generally carried off the land by stormwater runoff.

Comment: Common sources of nonpoint source pollution include agriculture, forestry, urban areas, mining and construction.

(MMM) Notice of deficiencies resulting in noncompliance means a notice issued in accordance with section 903.16 or section 903.17 of the Revised Code:

(1) Informing the owner or operator of the deficiencies resulting in noncompliance, including a reference to a particular statute, administrative rule(s) or order involved, the location of the violation when appropriate and the consequences of the violation or future violations;

(2) Directing the owner or operator to perform those actions necessary to comply with the permit including rules or any orders made pursuant to this chapter and to pay a penalty;

(3) Specifying a reasonable period of time by which compliance is to be achieved or is to be implemented not to exceed thirty days after the date of notice, or if the violation requires more than thirty days to correct, a period of time contained in a compliance plan acceptable to the department;

(4) Issued by the director or the director's designated representative; and

(5) In writing and shall be served personally or by registered or certified mail.

(NNN) Nutrient means, for purposes of Chapter 903. of the Revised Code, nitrogen or phosphorus.

(OOO) Operating record means the written record of a facility and other activities conducted under a permit to operate maintained by the owner or operator as found in rule 901:10-2-16 of the Administrative Code.

(PPP) Owner or operator, for the purposes of sections 903.02, 903.03, 903.04 and 903.05 of the Revised Code, means the person that owns or operates the manure storage or treatment facility or the concentrated animal feeding facility or concentrated animal feeding operation or major concentrated animal feeding facility as found in divisions (M), (N), (O), and (EE) of section 903.01 of the Revised Code.

(1) Owner means the person who has the right to control or in fact controls management of the facility or the selection of officers, directors, or managers of the facility or holds or is able to control, either directly or through a holding company or subsidiary, by means of any of the following:

(a) The person holds at least twenty-five per cent of the equity of the facility which is a business concern that is a publicly traded corporation; or

(b) The person is any other business concern not covered in paragraph (PPP)(1)(a) of this rule and holds at least fifty per cent of the equity of the facility; or

(c) The person has provided a loan to the facility with provisions for the right to control management of the facility or actual control of the facility or the selection of officers, directors, or managers of the facility.

(2) Types of ownership may include the any of the following:

(a) "Business concern" means any corporation, association, firm, partnership, trust, or other form of commercial organization.

(i) "Sole proprietorship" means a form of business concern, other than a partnership or corporation, in which one person owns all the assets and is solely liable for all the debts of the business. Sole proprietor includes any individual or entity in which an individual is an applicant or permittee or prospective owner.

(ii) "Partner" means a business concern where any person holding a

position as, or similar to, a general partner, as defined in division (E) of section 1782.01 of the Revised Code, or a limited partner, as defined in division (F) of section 1782.01 of the Revised Code, or persons who share profits and liability and have management powers of a partnership, as partnership is defined in section 1775.05 of the Revised Code.

(iii) "Publicly traded corporation" means a business concern that is a corporation:

(a) Whose shares are listed on a national securities exchange; or

(b) Whose shares are regularly quoted in an over-the-counter market by one or more members of a national or affiliated securities association; or

(c) With fifty or more shareholders.

(b) "Equity" means any ownership interest in a business concern, including sole proprietorship, the shares of a partner, and stock in a corporation.

(c) "Loans" means notes, mortgages, or financial loans of any kind, secured or unsecured, unless held by a chartered lending institution.

(3) "Operator" means the person responsible for the direct control or overall operations of a facility, and whose duties or responsibilities involve, in whole or part, the management of the facility and the exercise of independent or discretionary judgment. An operator may include the person who has the right to control or in fact controls management of the facility and or the selection of officers, directors, or managers of the facility.

(QQQ) Overflow means the discharge of manure resulting from the filling of manure storage or treatment facilities beyond the point at which no more manure or stormwater can be contained by the facilities.

(RRR) Past violations for purposes of rule 901:10-5-04 of the Administrative Code means violations of Chapter 903. of the Revised Code and rules promulgated thereunder that have occurred on more than one occasion in the past five years.

(SSS) Pests means detrimental insects and rodents.

(TTT) Phosphorus (as P) means the same as phosphate in these rules.

(UUU) Point source means any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, large concentrated animal feeding operation, medium concentrated animal feeding operation, small concentrated animal feeding operation, landfill leachate collection system, vessel or other flooding craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural stormwater runoff.

(VVV) Pollutant means dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials (except those regulated under the Atomic Energy Act of 1954, as amended (42 U.S.C. 2011 et. seq.), heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water. It does not mean:

(1) Sewage from vessels; or

(2) Water, gas, or other material which is injected into a well to facilitate production of oil or gas, or water derived in association with oil and gas production and disposed of in a well, if the well used either to facilitate production or for disposal purposes is approved by authority of the state in which the well is located, and if the state determines that the injection or disposal will not result in the degradation of ground or surface water resources.

(WWW) Professional engineer means a person qualified to practice engineering according to the provisions of Chapter 4733. of the Revised Code and is presently registered by Ohio's board of registration for professional engineers and land surveyors.

(XXX) Precipitation event means:

(1) A ten year, twenty-four hour rainfall event with a probable recurrence interval of once in ten years, or

(2) A twenty-five year, twenty-four hour rainfall event with a probable recurrence interval of once in twenty-five years; or

(3) A one-hundred year, twenty-four hour rainfall event.

(4) The terms ten year, twenty-four hour precipitation event, twenty-five year, twenty-four hour precipitation event, and one-hundred year, twenty-four hour precipitation event shall mean a precipitation event with a probable recurrence interval of once in ten years or twenty-five years or one hundred years, respectively, as defined by the national weather service in technical paper number forty, rainfall frequency atlas of the United States, May 1961, and subsequent amendments or equivalent regional or state precipitation probability information.

(YYY) Public water system, or PWS, means a system which provides water for human consumption through pipes or other constructed conveyances for the provision to the public of piped water for human consumption, if such system has at least fifteen service connections or regularly serves an average of at least twenty-five individuals daily at least sixty days out of the year. Such term includes any collection, treatment, storage and distribution facilities under the control of the operator of such system and used primarily in connection with such system, any collection or pretreatment storage facilities not under such control which are used primarily in connection with such system and any water supply system serving an agriculture labor camp, as defined in section 3733.41 of the Revised Code. A public water system is either a "community water system" or a "non-community water system".

(1) Community water system or CWS means a public water system which serves at least fifteen service connections used by year-round residents or regularly serves at least twenty-five year-round residents.

(2) Non-community water system or NCWS means a public water system that is not a community water system.

(a) Non-transient non-community water system or NTNCWS means a public water system that is not a community water system and that regularly serves at least twenty-five of the same persons over six months per year.

(b) Transient non-community water system or TNCWS means a non-community public water system that does not regularly serve at least twenty-five of the same persons over six months of the year.

(ZZZ) Reasonably available means that a livestock manager certified in accordance with rule 901:10-1-06 of the Administrative Code is physically located within the state and is available by telephone or by electronic communication.

(AAAA) Seasonal salmonid habitat means rivers, streams and embayments designated by the Ohio environmental protection agency as set forth in Chapter 3745-1 of the Administrative Code.

(BBBB) Setback means a specified distance from surface waters, wells, neighboring residences, or potential conduits to surface waters where manure, and process wastewater may not be land applied. Examples of conduits to surface waters include but are not limited to: Open tile line intake structures, sinkholes, and agricultural well heads.

(CCCC) Significant capital expenditure means a capital expenditure that exceeds the dollar amount specified for the following per animal:

(1) Five dollars and sixty cents each for mature dairy cow, whether milked or dry;

(2) Four dollars each for cattle other than mature dairy cows or veal calves, including heifers, steers, bulls, and cow/calf pairs;

(3) One dollar and sixty cents each for swine weighing fifty-five pounds or more;

(4) Eight dollars each for horses;

(5) Seven cents each for turkeys;

(6) Four cents each for laying hens or broilers, if the animal feeding facility does or does not use a liquid manure handling system.

Comment: If private financial data is submitted to make a claim regarding significant capital expenditure, then the owner or operator may claim the data as a trade secret. The department will inform the owner or operator that the owner or operator has the option to claim private financial data as trade secret.

(DDDD) Solid manure means manure containing greater than twenty per cent total solids.

(EEEE) Sole source aquifer means an aquifer designated by the United States environmental protection agency as the sole or principal ~~principle~~ source of drinking water for a given aquifer service area.

(FFFF) Soil means unconsolidated, erodible earth material consisting of minerals or organics.

(GGGG) Soil horizon means a layer of soil, approximately parallel to the soil surface, with characteristics produced by soil-forming processes.

(HHHH) Staging or staging area means the site used for placement of manure at the time of delivery in such a manner as to facilitate land application within twenty-four hours for the duration of the land application at that site. Staging includes the transfer of liquid manure from transport vehicles to land application equipment for subsurface injection.

(IIII) Stockpile area means field placement of the amount of manure to be used at a land application site.

(JJJJ) Storage or storage period means the length of time anticipated between manure clean-out events provided that manure storage does not mean any form of manure containment for a period of fourteen days or less.

(KKKK) Substantial compliance when referring to compliance with the provisions of a permit, means following the effluent limitations and best management practices set forth in the permit.

(LLLL) Total coliform means all coliform bacteria and is listed with approved methods of analysis in table 1A at 40 CFR 136.3.

(MMMM) Total dissolved solids means nonfilterable residue and is listed with approved methods of analysis in table 1B at 40 CFR 136.

(NNNN) Trade secrets means information, including the whole or any portion or phase of any scientific or technical information, design, process, procedure, formula, pattern, compilation, program, device, method, technique, improvement, business information or plans, financial information, listing of names, addresses, or telephone numbers that satisfies both of the following:

(1) It derives independent economic value, actual or potential, from not being generally known to and not being readily ascertainable through proper means by other persons who can obtain economic value from its disclosure or use.

(2) The person claiming the secrets has taken reasonable efforts under the circumstances to maintain secrecy.

(OOOO) Uncovered means any manure storage or treatment facility that allows exposure of manure to precipitation events or to the run-on or run-off from precipitation

events.

(PPPP) Variance means a type of permit modification that applies to NPDES permits.

(QQQQ) Zoonotic diseases means illnesses that can be transmitted between humans and animals.

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901:10-1-02 **General administrative requirements for permits.**

(A) Requirements for an individual permit to install, an individual permit to operate, or an individual NPDES permit:

(1) A person who is required to obtain both a permit to install pursuant to section 903.02 of the Revised Code and a permit to operate pursuant to section 903.03 of the Revised Code shall submit both applications for these permits simultaneously.

(2) A facility that is required to obtain both an NPDES permit and a permit to operate shall be issued a single permit to operate incorporating the terms and conditions established by both permits. The permit to operate expressly shall designate the terms and conditions required under the NPDES permit as federally enforceable. For purposes of Chapters 901:10-1 to 901:10-6 of the Administrative Code, the term NPDES permit, NPDES operation, and concentrated animal feeding operation is an animal feeding facility that is subject to the NPDES permit as established in section 402 of the Act and includes the renewal of such a permit. NPDES permit includes the federally enforceable provisions of a permit to operate into which NPDES permit provisions have been incorporated.

Comment: A person who seeks coverage by a general permit must refer to rules 901:10-3-11, 901:10-4-01 to 901:10-4-06 of the Administrative Code for a general permit to operate, general NPDES permit or general NPDES stormwater permit.

(3) An application for a permit to install, a permit to operate, or a NPDES permit to be deemed complete, must include:

(a) All required information as set forth in Chapter 901:10-2 and, if applicable, Chapter 901:10-3 of the Administrative Code, and shall accompany the application; and

(b) An appropriate fee as stated in rule 901:10-1-04 of the Administrative Code.

(c) Any supplemental information which is completed to the satisfaction of the director.

(d) If the application and accompanying materials submitted to the department is deemed to be incomplete, the department will notify the owner or operator with instructions as to what is missing or what needs to be completed.

(4) An application for a permit to install, permit to operate or NPDES permit shall include information on ownership and background, including but not limited to, the following information:

(a) The name and address of the applicant, of all partners if the applicant is a partnership or all officers and directors if the applicant is a corporation, and of any other person who has a right to control or in fact controls management of the applicant or the selection of officers, directors or managers of the applicant;

(b) When required by section 903.05 of the Revised Code, each application for a permit to install or permit to operate must contain information on a record of past compliance if the applicant has not operated a concentrated animal feeding facility in Ohio for at least two of the five years immediately preceding the submission of the application. If the permit to install and the permit to operate are submitted simultaneously as provided in division (A) (9) of section 903.10 of the Revised Code, then the following information is sufficient to satisfy the requirements of the permits:

(i) A listing of all concentrated animal feeding facilities that the owner or operator of the proposed new or modified concentrated animal feeding facility has operated or is operating in Ohio;

(ii) A listing of the concentrated animal feeding facilities that the owner or operator has operated or is operating elsewhere in the United States and that are regulated under the Federal Water Pollution Control Act together with a listing of the concentrated animal feeding facilities that the owner or operator has operated or is operating outside the United States;

(iii) A listing of all administrative enforcement orders issued to the owner or operator, all civil actions in which the owner or operator was determined by the trier of fact to be liable in damages or was the subject of injunctive relief or another type of civil relief, and all criminal actions in which the owner or operator pleaded guilty or was convicted during the five years immediately preceding the submission of the application in connection with any violation of the federal Water Pollution Control Act, the Safe Drinking Water Act, as defined in section 6109.01 of the Revised Code or any other applicable state laws pertaining to environmental protection that was alleged to have occurred or to be occurring at any concentrated animal feeding facility that the owner or operator has operated or is operating in the United States or with any violation of the environmental laws of another country that was alleged to have occurred or to be occurring at any concentrated animal feeding facility that the owner or operator has

operated or is operating outside the United States. The lists of concentrated animal feeding facilities operated by the owner or operator within or outside this state or outside the United States shall include, respectively, all such facilities operated by the owner or operator during the five year period immediately preceding the submission of the application.

(5) In the case of an application for a major concentrated animal feeding facility, written proof that the person who would be responsible for the supervision of the management and handling of manure at the facility has been issued a livestock manager certification in accordance with section 903.07 of the Revised Code or will obtain a livestock manager certification prior to applying any manure to land.

(6) In the case of an application that meets the criteria established in sections 307.204 and 505.266 of the Revised Code, written statements from the board of county commissioners of the county and the board of township trustees of the township in which the facility will be located, certifying that, in accordance with those sections, the applicant has provided the boards with the required written notification and that final recommendations, if any, regarding improvements and costs of improvements have been made by the boards.

(7) An application for a permit to install a concentrated animal feeding facility shall contain documentation or correspondence that verifies that the owner or operator has consulted with local officials, including boards of county commissioners or boards of township trustees to address infrastructure needs and financing of that infrastructure.

(8) A certification statement as follows: "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. "Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering information the information is, to the best of my knowledge and belief, true and accurate and complete. I am aware there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations."

(9) A complete application is required.

(a) Any person who requires a permit shall complete, sign, and submit to the director an application for each permit required.

(b) The director shall not begin the processing of a permit until the applicant has fully complied with the application requirements for the permit.

(c) Permit applications must comply with the signature and certification requirements of this rule.

(d) If an applicant fails or refuses to correct deficiencies in the application, the permit may be denied in accordance with section 903.09(F) of the Revised Code and appropriate enforcement actions may be taken under applicable provisions of the Chapter 903 of the Revised Code and rules promulgated there under.

(B) The owner or operator shall maintain a copy of the current permit to install, permit to operate or NPDES permit issued by the department at the facility site office.

(C) Duration and renewal.

(1) Permit to install.

(a) A permit to install shall expire after twenty-four months unless the applicant has undertaken a continuing program of construction or has entered into a binding contractual obligation to undertake and complete a continuing program of construction within a reasonable time.

(b) The director may extend the expiration of a permit to install upon request of the applicant. An extension, if approved, will be valid for twelve months.

(c) Any further extensions are at the discretion of the director.

(2) Permit to operate.

(a) A permit to operate shall be valid for a period of five years.

(b) A permit to operate may be renewed. An application for renewal of a permit to operate shall be submitted to the director at least one hundred eighty days prior to the expiration date of the permit to operate and shall comply with the requirements governing application for permits to operate that are established by rules, including rules 901:10-2-07 to 901:10-2-20 of the Administrative Code.

(D) NPDES permit.

(1) Any person who discharges or proposes to discharge pollutants and who does not have an effective permit, except persons covered by a general permit under Chapter 901:10-4 of the Administrative Code, must submit a complete application to the director in accordance with this rule and Chapter 901:10-2 of the Administrative Code. All concentrated animal feeding operation owners or operators must seek coverage under an NPDES permit, unless the owner or

operator has received from the director notification of a determination that the concentrated animal feeding operation has "no potential to discharge" manure.

(2) Any person proposing a new discharge shall submit an application at least one hundred and eighty days before the date on which the discharge is to commence unless permission for a later date has been granted by the director. Facilities proposing a new discharge of storm water associated with industrial activity shall submit an application one hundred and eighty days before that facility commences industrial activity which may result in a discharge of storm water associated with that industrial activity.

(3) When a concentrated animal feeding operation is owned by one person but is operated by another person, the operator may obtain a permit.

(4) Facilities undergoing construction activities that include clearing, grading, excavating, grubbing and/or filling activities that result in the disturbance of one or more acres shall submit applications at least ninety days before the date on which construction is to commence. Different submittal dates may be required under the terms of applicable general permits.

(5) Applicants for concentrated animal feeding operations must submit Form 2B.

(6) A NPDES permit shall be valid for a period not to exceed five years.

(7) A NPDES permit may be renewed. An application for renewal of a NPDES permit shall be submitted to the director at least one hundred eighty days prior to the expiration date of the NPDES permit and shall comply with the requirements governing applications for permit to operate and NPDES permit applications that are established in chapters 901:10-2 and 901:10-3 of the Administrative Code.

(E) A permit to operate application that is not connected with an application for a NPDES permit or a permit to install shall be acted upon not later than ninety days after receipt of a complete application as provided by paragraph (A)(9) of this rule. The director or the director's authorized representative may provide guidance and technical assistance to the applicant, provided that the owner or operator is responsible for compliance with the permit and the director shall not be estopped from enforcement.

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901:10-1-03 **Criteria for decision-making.**

(A) Criteria for decision making by the director. The director shall deny, modify, suspend or revoke a permit to install or permit to operate if:

(1) The permit application contains misleading or false information; or

(2) The designs and plans fail to conform to best management practices and to the rules in this chapter or if the owner or operator fails to build the facility in accordance with design plans as approved in the permit to install or in accordance with amended and approved design plans; or

(3) The plans for the manure management plan, the insect and rodent control plan and any other plans governing the operation fail to conform to best management practices and to rules of this chapter; or

(4) The director determines that the designs and plans describe a proposed discharge or source for which a NPDES permit is required under this chapter and that will conflict with an areawide waste treatment plan adopted in accordance with section 208 of the Act; or

(5) The facility is not designed or constructed as a non-discharge system or operated to prevent the discharge of pollutants to waters of the state or to otherwise protect water quality; or

(6) The director determines that the applicant or owner or operator has not complied with rule 901:10-1-10 of the Administrative Code.

(B) The director may deny, modify, suspend or revoke a permit to install or permit to operate if:

(1) The applicant or owner or operator and persons associated with the applicant or owner or operator, in the operation of concentrated animal feeding facilities, have a history of substantial noncompliance with the Federal Water Pollution Control Act, the Safe Drinking Water Act, as defined in section 6109.01 of the Revised Code, any other applicable state laws pertaining to environmental protection or environmental laws of another country that indicates that the applicant or owner or operator lacks sufficient reliability, expertise and competence to operate the proposed new or modified facility in substantial compliance with Chapter 903. of the Revised Code and these rules.

(a) In evaluating a history of substantial noncompliance as required, the director may consider all of the following for a period of five years preceding the date of the application:

(i) Any information submitted on ownership and background pursuant to rule 901:10-1-02 of the Administrative Code, including the following:

(a) If the applicant or permittee is a publicly traded corporation, provide the full name, date of birth, and business address of each individual or business concern holding more than twenty-five per cent of the equity in the applicant or permittee; or

(b) If the applicant or permittee is a sole proprietor or any other business concern, provide the full name, date of birth, and business address of each individual or business concern holding more than fifty per cent of the equity in the applicant or permittee;

(c) If the applicant or permittee is a partnership, as partnership is defined in section 1775.05 of the Revised Code, provide the full name, date of birth, and business address of each individual or business concern holding more than fifty per cent of the equity in the applicant or permittee; and

(d) If the applicant or permittee is the recipient of a financial loan to the facility with provisions for the right to control management of the facility or actual control of the facility or the selection of officers, directors, or managers of the facility, identify the full name, date of birth, and business address of each individual or business concern providing the loan.

(ii) Any administrative enforcement action (including an administrative order or notice of violation), civil suit, or criminal proceeding that is:

(a) Pending against the applicant or a business concern owned or controlled by the applicant;

(b) Resolved or dismissed in a settlement agreement, in a consent order or decrees, is adjudicated or otherwise dismissed and that may or may not have resulted in the imposition of:

(i) A sanction such as a fine, penalty, payment or work or service performed in lieu of a fine or penalty; or

(ii) Cessation or suspension of operations.

(iii) Any revocation, suspension, or denial of a license or permit or equivalent authorization; or

(iv) With respect to paragraph (B)(1)(a) of this rule, any explanation that the applicant or owner or operator may choose to submit.

(C) In addition to the criteria set forth in paragraphs (A) and (B) of this rule, the director shall deny, modify, suspend, or revoke an NPDES permit if the director determines:

(1) Discharge from the facility will prevent or interfere with attainment or maintenance of applicable water quality standards adopted under section 6111.041 of the Revised Code and the most current antidegradation policy adopted under section 6111.12 of the Revised Code; or

(2) Discharge from the facility will not achieve compliance with national effluent standards; or

(3) The administrator of the United States environmental protection agency objects in writing to the issuance of the NPDES permit in accordance with section 402(d) of the Act; or

(4) The proposed discharge or source will conflict with an areawide waste treatment management plan adopted in accordance with section 208 of the Act; or

(5) Forms, notices, or reports required pursuant to the terms and conditions of the NPDES permit are false or inaccurate;

(6) The discharge is of any radiological, chemical, or biological warfare agent or high-level radioactive waste or medical waste; or

(7) The United States army corps of engineers for the district in which the discharge is located objects in writing to the issuance of the NPDES permit as substantially impairing navigation or anchorage; or

(8) Discharge from the facility will not achieve national standards of performance for new sources; or

(9) There is a change in any condition that requires either a temporary or permanent reduction or elimination of the permitted discharge; or

(10) The permitted activity endangers human health or the environment and can only be regulated to acceptable levels by permit modification or termination; or

(11) The applicant or owner or operator is required to obtain a state or other appropriate certification under section 401 of the Act and 40 CFR section 124.53 and that certification has not been obtained or waived;

(12) When the imposition of conditions cannot ensure compliance with the applicable water quality requirements of all affected states; or

(13) Discharge from the facility will not achieve and maintain compliance with other requirements of the Act and the regulations promulgated thereunder.

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901:10-1-04 **Fees.**

(A) Applicants for permits and certifications shall pay non-refundable fees to the department of agriculture for each such issuance as provided by this rule and rule 901:10-1-02 of the Administrative Code.

(B) Each owner or operator who applies for a new or renewal permit, review compliance certificate, permit to operate, permit to install, NPDES permit or general permit under Chapter 903. of the Revised Code shall pay the fees specified in the following schedule:

Review Compliance certificate (existing facilities 2002-2004)	Permit to install	Stormwater permit (for construction only)	Permit to Operate	Permit to operate with NPDES
$200	$1,250	$100	$750	$1,000

General permit (permit to operate)	General permit with NPDES	Permit modification/permit transfer	Certified livestock manager
$750	$1,000	$200	$30

(C) As required in rule 901:10-1-06 of the Administrative Code, the livestock manager certificate will be assessed a fee of thirty dollars. Fees are assessed upon application for a certificate or renewal of certificate. A late charge of thirty dollars shall be assessed for a certificate expired more than thirty days.

(D) Review compliance certificates are applicable to those facilities holding a permit to install issued by the Ohio environmental protection agency. The review compliance certificate fees are paid at the time of the application. Additional permit to operate fees will be paid at the time of the permit to operate application.

(E) The permit to install shall be submitted simultaneously with the permit to operate with applicable fees for each permit.

(F) An application for the permit to install will be assessed a fee of one thousand two hundred fifty dollars.

(G) If a stormwater permit is necessary with the permit to install, an additional one hundred dollars will be assessed.

(H) An application for the permit to operate, filed independently or with a permit to install, will be assessed a fee of seven hundred fifty dollars. The renewal fee for the permit to operate will be seven hundred fifty dollars.

(I) An application for the permit to operate, filed with an application for a NPDES permit, will be assessed an additional fee of two hundred fifty dollars. The total amount will be one thousand dollars for this combined permit.

(J) An application for a general permit to operate will be assessed a fee of seven hundred fifty dollars. The renewal fee for the general permit to operate is seven hundred fifty dollars.

(K) An application for a general permit to operate, filed with an application for a NPDES permit, will be assessed an additional fee of two hundred fifty dollars. The total amount will be one thousand dollars for this combined permit.

(L) Permit transfers are subject to a fee of two hundred dollars.

(M) Modifications to permits are subject to a fee of two hundred dollars.

(N) The fees assessed under this rule shall be collected upon submission of the application for permit as required by rule 901:10-1-02 of the Administrative Code or certificates or renewals or upon application for permit transfer or permit modification.

(O) The director shall review the fees prescribed in paragraphs (B) to (N) of this rule biennially. If necessary to revise fees, the director shall compile revised fee schedules and shall make the revised schedules available to persons required to pay the fees and to the public.

(P) If fees do not accompany the application as set forth in paragraphs (B) to (N) of this rule, the application will be deemed incomplete. The applicant will be contacted with notice as to what fees are applicable and the application will not be processed until the fees are paid.

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901:10-1-05 **Trade secrets requests for confidentiality.**

(A) Applicant means a person submitting a claim of trade secrecy to the director or to the director's authorized representative.

(B) Records, reports or other information obtained under Chapter 903. of the Revised Code or rules thereunder may be entitled to protection as trade secrets. In order to be protected, the applicant shall demonstrate to the director's satisfaction that all or part of such records, reports or other information, (including attachments that are required to be submitted), or other part thereof (other than effluent data) to which the director has access under this rule, if made public would divulge methods or processes or other information entitled to protection as trade secrets. If the director determines that the claim for trade secret is satisfied, the director shall consider such records, reports, or other information or part thereof confidential and manage the records, reports or other information pursuant to this rule.

(C) The following information is considered a public record for which claims of trade secrecy will be denied:

(1) The name and address of any permit applicant or permittee;

(2) Permit forms, permit applications, permits and sampling and effluent data;

(3) Information required by NPDES application forms provided by the department including information submitted on the forms themselves and any attachments used to supply information required by the forms; and

(4) Any public comments, testimony or other documentation from the public concerning a permit application.

(D) A request for confidentiality shall be submitted to the director simultaneously with submission of the specific record, report or other information. The applicant shall clearly indicate the record, report or information as trade secret and shall label it "trade secret". Failure to make such request simultaneously shall constitute a waiver of the right to prevent public disclosure. A request for confidentiality shall be accompanied by documents that support the request which include:

(1) Describe the measures the applicant has taken to safeguard the confidentiality of the information.

(2) Indicate whether or not others are bound by a confidentiality agreement.

(E) A decision as to the confidentiality request shall be made by the director within forty-five days of receipt of a request filed in accordance with this rule. Until such decision is made, the record, report or other information or part thereof, shall be confidential and maintained by the director in a separate file labeled "confidential". The applicant shall be notified by mail of the decision.

(F) Any record, report or other information determined to be confidential may be disclosed without the applicant's consent to officers, employees or authorized representatives of the state, another state or the United States when necessary for an enforcement action brought under this chapter or when otherwise required by the Federal Water Pollution Control Act.

(G) Ten days prior to release of the trade secret to those described in paragraph (E) of this rule, the director shall give notice to the claimant of the release of the information.

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901:10-1-06 **Certified livestock manager.**

(A) Purpose and applicability.

(1) The management and handling of manure at a major concentrated animal feeding facility, including the land application of manure or the removal of manure from a manure storage or treatment facility, shall be conducted only by or under the supervision of a person holding a livestock manager certification.

(2) No person who is a livestock manure broker shall buy, sell, or land apply annually more than four thousand five hundred dry tons of manure or more than twenty-five million gallons of liquid manure unless the person is a certified livestock manager.

(3) No person who is a livestock manure applicator shall land apply and transport annually more than four thousand five hundred dry tons of manure or more than twenty-five million gallons of liquid manure unless the person is a certified livestock manager.

(4) Any person subject to this rule who is either a livestock manure broker or a livestock manure applicator shall maintain an operating record on forms provided by the department and other forms selected by the livestock manure broker or livestock manure applicator and approved by the director. The operating record shall be retained for a minimum period of five years, shall be made available to the director upon request, and shall record and document the following information for land application:

(a) Paragraph (A)(1)(c)(ii) to (A)(1)(c)(iv) of rule 901:10-2-16 of the Administrative Code; and

(b) Paragraph (A)(1)(c)(xiv) to (A)(1)(c)(xvii) of rule 901:10-2-16 of the Administrative Code.

(5) In order for a person to manage or handle manure at a major concentrated animal feeding facility or for a person to either transport and land apply manure or to, buy, sell or land apply annually more than four thousand five hundred dry tons of solid manure or more than twenty-five million gallons of liquid manure in this state, they shall obtain a livestock manager certification from the department. In the alternative, the person may present a certified copy of an equivalent and valid manure manager certification from another state, which has been verified by the director or his designated representative, together with the appropriate fee as listed in the fee rule.

(6) This rule does not apply to a person who is an owner or operator of a concentrated animal feeding facility permitted by the director in accordance with section 903.02 of the Revised Code or section 903.03 of the Revised Code, unless that person applies other manure from another animal feeding facility, concentrated animal feeding facility, or major concentrated animal feeding facility in excess of four thousand five hundred tons per year of solid manure or more than twenty-five million gallons of liquid manure per year.

(7) A person is considered to be under supervision of a certified livestock manager if the holder of the certification is reasonably available, but not necessarily physically present, during the management and handling of manure. The certified livestock manager cannot claim the lack of presence as a defense under Chapter 903. of the Revised Code.

(B) Application and certification procedures.

(1) In order to be a certified livestock manager, the applicant must meet the requirements in paragraphs (D)(1) to (D)(5) of this rule.

(2) The applicant for a livestock manager certification shall file an application on a form provided by the director. The application shall include but not be limited to: address and telephone number of the applicant; the results of the applicant's test results for any examination completed by the applicant as described in paragraphs (D)(1) to (D)(5) of this rule; and if applicable, the quantity of manure managed or handled by the applicant.

(3) All certifications issued shall expire on December thirty-first of the third year after the year in which the certificate was issued and each December thirty-first triennially thereafter, unless renewed in accordance with this rule. Any certification issued shall be valid for three years and thereafter be subject to renewal. A renewal shall be valid for three years.

(4) The department shall charge an appropriate fee as listed in the fee rule 901:10-1-04 of the Administrative Code for the issuance and renewal of a livestock manager certification.

(5) In order for a certification to be renewed, the holder must accumulate ten hours of continuing education credit over a three year period immediately preceding the date of application..

(C) Enforcement.

(1) The director may suspend, revoke or deny a livestock manager certification if the certified livestock manager:

(a) Engages in fraud or deceit in obtaining a certification; or

(b) Fails to exercise reasonable care, judgment or use of the manager's knowledge and ability in the performance of the duties of a certified livestock manager; or

(c) Is incompetent or otherwise unable to properly perform the duties of a certified livestock manager; or

(d) Has violated or caused to be violated any provision or rules of Chapter 903. of the Revised Code.

(2) If a livestock manager certification is suspended, the suspension shall be in effect for a period of not less than two hundred seventy days. After the required two hundred seventy days has passed and if there is substantial evidence that the conditions leading to the suspension have been corrected, the director may issue a certificate to reinstate the suspended livestock manager certification. A person may apply in writing for reinstatement. The petition must include any relevant facts concerning changes to conditions under which suspension or revocation occurred.

(3) If a livestock manager certification is revoked, the livestock manager has a right to a hearing in accordance with Chapter 119. of the Revised Code.

(4) If a livestock manager certificate is denied, the livestock manager is entitled to a hearing in accordance with Chapter 119. of the Revised Code.

(5) If a certified livestock manager fails to renew his certification within thirty days of its expiration, he or she must make application for certification and meet the requirements of paragraph (B) of this rule.

(6) Violations of section 903.07 of the Revised Code and division (E) of section 903.10 of the Revised Code and this rule will be considered to be category II and low gravity as set forth in rule 901:10-5-04 of the Administrative Code.

(D) Training and examination procedures.

(1) The department may offer a training program and an examination for a livestock manager certification. The applicant shall have knowledge of information on topics that include calculating nutrient values in manure, devising and implementing a plan for the land application of manure, removing manure held in a manure storage or treatment facility and following best management practices for disposal of dead animals and manure management, including practices that control odor and protect the environment. The applicant shall be expected to have knowledge of how to devise and implement a manure

management plan and an insect and rodent control plan. In addition, the applicant shall understand the laws and rules related to animal feeding facilities.

(2) An applicant for a livestock manager certification shall pay a fee as required by rule 901:10-1-04 of the Administrative Code.

(3) The director may specify other types of recognized training programs that, if completed, are considered to satisfy the training and examination requirement.

(4) The director has determined that the following training and certification programs satisfy this rule:

(a) If an applicant for a livestock manager certification demonstrates that he or she has the knowledge of information of the topics set forth in paragraph (D)(1) of this rule and that he or she has completed the training provided in accordance with the "certified crop advisor" program conducted by the "American Society of Agronomy" and demonstrates that he or she has successfully passed the examination, then the applicant will be eligible for a certificate issued in accordance with this rule; or

(b) If the applicant for a livestock manager certificate demonstrates that he or she has the knowledge of the information of the topics set forth in paragraph (D)(1) of this rule and that he or she has completed the training and certification of the United States department of agriculture natural resource conservation service relating to being a certified planner to prepare comprehensive nutrient management plans, then the applicant will be eligible for a certificate issued in accordance with this rule.

(5) The department may cooperate with or enter into cooperative agreements with any official agency of the federal government, of this state or its subdivisions, or other academic or private institutions for the purpose of administration of the training and examination portions of Chapter 903. of the Revised Code.

(6) In accordance with section 903.20 of the Revised Code, the director may call upon the concentrated animal feeding facility advisory committee to assist in establishing the standards of training and examination.

(7) Training and examination opportunities will be provided at such times and places as determined by the department in consideration of the number and location of requests.

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901:10-1-07 **Review compliance certification applications.**

(A) The owner or operator of an existing concentrated animal feeding facility shall furnish all of the following to the director on a form prescribed by the director:

(1) The name and address of the owner, of all partners if the owner is a partnership or of all officers and directors if the owner is a corporation, and of any other person who has a right to control or in fact controls management of the facility or the selection of officers, directors, or managers of the facility;

(2) Specific information about the number and type of animals, whether in open confinement or housed under roof (beef cattle, broilers, layers, swine, mature dairy cows, dairy heifers, sheep and lambs, horses, turkeys);

(3) A manure management plan for the facility that conforms to best management practices regarding the handling, storage, transportation and land application of manure generated at the facility and that contains any other information required by rules 901:10-2-08 to 901:10-2-11, 901:10-2-13 to 901:10-2-16 and 901:10-2-18 of the Administrative Code;

(4) A plan for the disposal of dead livestock in accordance with rule 901:10-2-15 of the Administrative Code;

(5) An insect and rodent control plan for the facility that conforms to best management practices and is prepared in accordance with rule 901:10-2-19 of the Administrative Code;

(6) In the case of a major concentrated animal feeding facility, written proof that the person who would be responsible for the supervision of the management and handling of manure at the facility has been issued a livestock manager certification in accordance with rule 901:10-1-06 of the Administrative Code.

(7) The names and addresses for all persons owning property contiguous to the production area of the concentrated animal feeding facility.

(B) The owner or operator need not furnish any information otherwise required under paragraph (A) of this rule if that information is included in the permit to install that was issued for the existing facility. The owner or operator shall revise or amend information to reflect current operating conditions or otherwise verify that the information is accurate.

(C) Within one year of the date on which the director has finalized the program as that term is defined in division (I) of section 903.01 of the Revised Code, the director shall:

(1) Review the installation permits and inspect at least fifty per cent of all existing concentrated animal feeding facilities that hold a previously issued installation permit.

(2) Require the owners or operators of existing concentrated animal feeding facilities selected for review under this paragraph to provide the information required in paragraph (A) or paragraph (B) of this rule.

(D) Within two years of the date on which the director has finalized the program as that term is defined in division (I) of section 903.01 of the Revised Code, the director shall:

(1) Review the installation permits and inspect for the remaining fifty per cent of existing concentrated animal feeding facilities that hold a previously issued installation permit.

(2) Require the owners or operators of existing concentrated animal feeding facilities selected for review under this paragraph to provide the information required in paragraph (A) or paragraph (B) of this rule.

(E) The director may consider the following factors in developing a schedule for facilities in the first year and the second year of the finalized program:

(1) Age of the facility;

(2) Date of the facility's most recent inspection;

(3) Size of the facility;

(4) The facility's record of compliance or noncompliance;

(5) Coordination of fieldwork and surveillance with the local soil and water conservation district and with staff of the Ohio environmental protection agency;

(6) Geographic proximity of facilities.

(F) The director shall review the existing installation permit, the facility, the information furnished under paragraph (A) or paragraph (B) of this rule and determine if the existing facility is being operated in a manner that protects the waters of the state and minimizes the presence and negative effects of insects and rodents at the facility and in surrounding areas. If the director finds that the existing facility is in compliance, the director shall issue an order granting a review compliance certificate to the

facility. In issuing the certificate, the director shall consider technical feasibility and economic costs, provided the director shall not require a significant capital expenditure, as that term is defined in rule 901:10-1-01 of the Administrative Code, to be made.

(G) If the director finds that the existing facility is not being operated in a manner that protects the waters of the state and that the insect and rodent control plan and the manure management plan do not conform to the best management practices of these rules, the director may issue an order denying a review compliance certificate. The director shall notify the owner or operator that the orders may be appealed in an adjudication hearing in accordance with Chapter 119. of the Revised Code, except that section 119.12 of the Revised Code does not apply.

(H) The denial of a review compliance certificate terminates the existing installation permit previously issued to the facility. The owner or operator shall apply for a permit to install and/or a permit to operate pursuant to this chapter if the owner or operator plans to continue operations at the existing facility.

(I) Upon issuance of a review compliance certificate, the certificate automatically shall merge and become a part of the previously issued installation permit. An existing facility that is issued a review compliance certificate shall comply with the previously issued installation permit. If any of the terms and conditions of the installation permit and the review compliance certificate is in conflict, the terms and conditions of the review compliance certificate are controlling.

(J) A review compliance certificate is valid for period of five years. Not later than one hundred eighty days prior to the expiration date of the review compliance certificate, the owner or operator shall apply for a permit to operate.

(K) The director may revoke a review compliance certificate issued to an existing facility after the director has issued an order as a result of a hearing held under Chapter 119. of the Revised Code in which the facility has been found to be in violation of the terms and conditions of the review compliance certificate. An existing facility whose review compliance certificate is revoked shall apply for a permit to operate and, if applicable, a NPDES permit in order to resume operating.

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901:10-1-08 **Permit transfer.**

(A) Transfers of permits for concentrated animal feeding facilities and concentrated animal feeding operations are permissible.

(B) In this rule, transferor means the current holder of a permit to install and/or permit to operate and/or NPDES permit. Transferee means the person making application to acquire the existing permit.

(1) The director shall be notified in writing by the transferor at least thirty days prior to any proposed transfer of a permit. The transferee shall inform the director that it will assume the responsibilities of the transferor.

(2) The notice shall include a written agreement between the transferor and transferee containing a specific date for transfer of permit responsibility, coverage and liability between the parties.

(C) In order to satisfy the requirements of paragraph (B) of this rule, the following information shall be submitted by the transferee:

(1) The name and address of the transferor and the transferee. The transferee shall identify all partners if the transferee is a partnership or all officers and directors if the transferee is a corporation, and of any other person who has a right to control or in fact controls management of the transferee or the selection of officers, directors, or managers of the transferee. If the transferee is an owner or operator as these terms are defined in paragraph (MMM) of rule 901:10-1-01 of the Administrative Code the transferee must satisfy the requirements of this rule.

(2) In the case of an application for a transfer of a permit for a major concentrated animal feeding facility, written proof that includes copies of certificates or authenticating documentation that they will employ a certified livestock manager.

(D) Each application to transfer a permit that is submitted by a new owner or operator who has not operated a concentrated animal feeding facility in this state for at least two of the five years immediately preceding the submission of the application for transfer shall be accompanied by all of the following:

(1) A listing of all concentrated animal feeding facilities that the transferee has operated or is operating in this state;

(2) A listing of the concentrated animal feeding facilities that the transferee has operated or is operating elsewhere in the United States and that are regulated under the Act together with a listing of the concentrated animal feeding facilities that the transferee has operated or is operating outside the United States;

(3) A listing of all administrative enforcement orders issued in connection with the transferee; all civil actions in which the transferee was determined by the trier of fact to be liable in damages or was the subject of injunctive relief or another type of civil relief; all criminal actions in which the transferee pleaded guilty or was convicted during the five years immediately preceding the submission of the application for transfer in connection with any violation of the "Federal Water Pollution Control Act," the "Safe Drinking Water Act," as defined in section 6109.01 of the Revised Code, or any other applicable state laws pertaining to environmental protection that was alleged to have occurred or to be occurring at any concentrated animal feeding facility that the transferee has operated or is operating in the United States or with any violation of the environmental laws of another country that was alleged to have occurred or to be occurring at any concentrated animal feeding facility that the transferee has operated or is operating outside the United States. The lists of concentrated animal feeding facilities operated by the transferee within or outside this state or outside the United States shall include, respectively, all such facilities operated by the transferee during the five-year period immediately preceding the submission of the application.

(E) Denial of transfer of permits to install, permits to operate, or NPDES permits. The director may deny the application for transfer if the director finds from the application, the information submitted and pertinent information obtained by the director at the director's discretion that the transferee and persons associated with the transferee in the operation of concentrated animal feeding facilities have a history of substantial noncompliance with the "Federal Water Pollution Control Act," the "Safe Drinking Water Act," as defined in section 6109.01 of the Revised Code, any other applicable state laws pertaining to environmental protection or the environmental laws of another country that indicates that the transferee lacks sufficient reliability, expertise and competence to operate the proposed new or modified concentrated animal feeding facility in substantial compliance with this chapter and rules adopted under it. In evaluating a history of substantial noncompliance the director shall consider the information required to be pursuant to rule 901:10-1-03 of the Administrative Code. A denial by the director may be appealed by the owner or operator in accordance with Chapter 119. of the Revised Code.

(F) If the director does not notify the transferor or the transferee of an intention to object to the transfer, then the permit will be transferred. The director may also notify both the transferor and the transferee of the director's decision.

(G) The director may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the Act.

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901:10-1-09 **Permit modifications.**

(A) No facility or activities regulated by a permit to install or a permit to operate or a NPDES permit under this chapter shall be modified as that term is defined in rule 901:10-1-01 of the Administrative Code unless the permit is modified in compliance with this rule. When a permit is modified, only the conditions subject to modification are reopened. A draft permit modification must be prepared and is subject to public notice and public participation procedures in rules 901:10-6-01 to 901:10-6-06 of the Administrative Code.

(B) The director may propose to modify a permit for the following reasons which include, but are not limited to:

(1) If the director receives information submitted by the owner or operator requesting to modify the permit; or

(2) If the director receives information through inspections; or

(3) If the director reviews a permit.

The director may seek the consent of the owner or operator before the director modifies the permit. The director shall issue a notice of the proposed permit modification with an opportunity for an adjudication hearing in accordance with Chapter 119. of the Revised Code.

(C) Either the director or any interested person may propose to modify a NPDES permit or revoke and reissue a NPDES permit or both for the following reasons:

(1) Alterations. There are material and substantial alterations, additions or expansions to the operation which occurred after a permit issuance which justify the application of permit conditions that are different or absent in the existing permit.

(2) Information. The director has received new information. NPDES permits may be modified during their term for this cause only if the information was not available at the time of permit issuance (other than revised rules or test methods) and would have justified the application of different permit conditions at the time of issuance. For NPDES general permits this cause includes any information indicating that cumulative effects on the environment are unacceptable. For a new source of an NPDES discharge this cause shall include any significant information derived from effluent testing required after issuance of the permit.

(3) New regulations. The standards or rules on which the NPDES permit was based have been changed by promulgation of amended standards or rules or by judicial decision after the permit was issued. NPDES permits may be modified during their terms for this cause only as follows:

(a) For promulgation of amended standards or rules, when:

(i) The permit condition requested to be modified was based on a promulgated effluent limitation guideline or on promulgated water quality standards or water quality standards approved by the United States environmental protection agency; and

(ii) U.S.EPA has revised, withdrawn or modified that portion of the rule or effluent limitation guideline on which the permit condition was based, or has approved a state action with regard to a water quality standard on which the permit condition was based; and

(iii) An owner or operator requests modification within ninety days after Federal Register notice of the action on which the request is based.

(b) For judicial decisions, when: a court of competent jurisdiction has remanded and stayed rules; if the remand and stay concern that portion of the rules or guidelines on which the permit condition was based; and a request for a permit modification is filed by the owner or operator within ninety days of judicial remand.

(4) Compliance schedules. The director determines good cause exists for modification of a compliance schedule of a NPDES permit, such as acts of nature or acts of third parties, strike, flood, materials shortage or other events over which the owner or operator has little or no control and for which there is no reasonably available remedy. However, in no case may a NPDES permit compliance schedule be modified to extend beyond any applicable statutory deadline in the Act.

(5) When the owner or operator has filed a request for a variance under rule 901:10-3-08 of the Administrative Code or for a "fundamentally different factors" variance within the time specified in 40 CFR section 122.21. or 40 CFR section 125.27(a) for an NPDES permit.

(6) To correct technical mistakes (other than the operational changes defined in paragraph (F) of this rule and listed in the appendix to this rule), such as errors in calculation or mistaken interpretations of law made in determining permit conditions.

(D) The owner or operator may submit a written request to the director for approval by the director if the following apply:

(1) The owner or operator desires to accomplish material or substantial alterations or expansions or additions to the facility or other changes defined as a modification; or

(2) New information or data obtained by the owner or operator justify permit conditions in addition to or different from those in the existing permit.

(E) An application for permit modification or a major operational change submitted by the owner or operator shall contain the following information:

(1) The name of the owner or operator and the name and address and telephone number of the facility or operation;

(2) A description of the exact nature of the changes to be made;

(3) An explanation of why the modification or major operational change is needed or desired; and

(4) Applicable technical information in support of the request for modification or major operational change, including but not limited to, data, records, reports, trend analysis, site plans and engineering plans that show the location and extent of work to be performed or the plan to be modified.

(5) If the director decides that the request for modification is not justified, the owner or operator shall be notified in writing and provided the reasons for the director's determination.

(F) Operational changes. Changes to the facility that are not modifications as that term is defined in rule 901:10-1-01 of the Administrative Code may be either operational changes or major operational changes. Appended to this rule is a list of types of changes or activities that are operational changes and major operational changes. The owner or operator shall notify the director of any planned major operational change in accordance with paragraph (E) of this rule. The owner or operator shall provide the director or the director's authorized representative with an opportunity for a site inspection and with a thirty-day review of technical information. If the type of change or activity is not a modification and is not listed in the appendix, then the director shall exercise discretion to decide if the change proposed by the owner or operator or by the director is a modification or an operational change or a major operational change. Upon the request of the director or as initiated by the owner or operator, operational and major operational changes may be made by the owner or operator and shall be recorded in the operational record required by rule 901:10-2-16 of the Administrative Code.

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Appendix to rule 901:10-1-09 Operational Changes.

Operational change	Comment
To correct technical mistakes, such as errors in calculation made in determining land application rates; record changes and calculations in the operating record in accordance with rule 901:10-2-16 of the Administrative Code.	See rule 901:10-2-14 of the Administrative Code.
Administrative changes in Emergency Response Plan or Closure Plan, e.g., changes in personnel or telephone numbers; record in the emergency response plan or the operating record as applicable, in accordance with either rule 901:10-2-17 or 901:10-2-16 of the Administrative Code.	See rules 901:10-2-17 [emergency response] and 901:10-2-18 [closure plans] of the Administrative Code.
Changes in methods of handling and disposing of dead livestock; record in the operating record in accordance with rule 901:10-2-16 of the Administrative Code.	See rule 901:10-2-15 of the Administrative Code
Changes in rates of land application of nitrogen or phosphorus made for each land application site that do not impact the total nutrient budget by more than ten per cent; compare to total nutrient requirements for the farm and record in the operating record in accordance with rule 901:10-2-16 of the Administrative Code.	See rule 901:10-2-14 of the Administrative Code.
Changes in frequency of sampling or monitoring or reporting of soil at the land application sites or of manure at the manure storage or treatment facility that do not exceed the minimum requirements in rules 901:10-2-10 and 901:10-2-13 of the Administrative Code; record changes in the operating record in accordance with rule 901:10-2-16 of the Administrative Code.	See rules 901:10-2-13 [soil sampling and results] and 901:10-2-10 [manure characterization] of the Administrative Code.
Changes due to use of a Distribution and Utilization Plan that will either add or decrease the amount of manure to be managed by land application; record in the operating record in accordance with rule 901:10-2-16 of the Administrative Code.	See rule 901:10-2-11 of the Administrative Code.
Equipment replacement or upgrading with new or functionally equivalent components (e.g., pipes, valves, pumps, conveyors, controls) or to use technological advancements; record in the operating record in accordance with rule 901:10-2-16 of the Administrative Code.	See rule 901:10-2-08 of the Administrative Code.

Major operational changes.	Comment
Changes or addition of any manure storage or treatment facility that is less than a 10 per cent increase in design capacity.	See rule 901:10-2-02 of the Administrative Code.

Changes to any settling ponds, run-on or run-off systems, or to any berms, diversions, or buffers or any changes to stormwater management.	See rules 901:10-2-04 and 901:10-2-08 of the Administrative Code.
Changes to raw material storage areas, including, but not limited to, feed silos, silage bunkers, commodity buildings, and bedding materials.	See rule 901:10-2-01(C)(5) of the Ohio Administrative Code.
Changes to waste containment areas, including, but not limited to, any of the following: egg washing or egg processing facilities; areas used in the storage, handling, treatment, or disposal of mortalities.	See rule 901:10-2-01(C)(5) of the Ohio Administrative Code.
Changes to the Insect and Rodent Control Plan.	See rule 901:10-2-19 (F) of the Ohio Administrative Code.

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901:10-1-10 **Prohibitions.**

(A) No person shall modify an existing or construct a new concentrated animal feeding facility without first obtaining a permit to install issued by the director under section 903.02 of the Revised Code.

(B) Except for a concentrated animal feeding facility that is operating under an installation permit issued by the director of environmental protection or a review compliance certificate issued by the director, on and after the date on which the program has been finalized under section 903.01 of the Revised Code, no person shall operate a concentrated animal feeding facility without a permit issued by the director under section 903.03 of the Revised Code.

(C) No person to whom a NPDES permit has been issued shall discharge or cause to be discharged, in any waters of the state any manure, pollutants, or stormwater resulting from an animal feeding facility in excess of the permissive discharges specified under an existing permit.

(D) On and after the date on which the United States environmental protection agency approves the NPDES program submitted by the director of agriculture under section 903.08 of the Revised Code, no person shall discharge pollutants from a point source into waters of the state unless authorized by a valid and unexpired NPDES permit issued by the director or unless an application for renewal of such NPDES permit has been submitted by the person and is pending.

(E) All concentrated animal feeding operations have a duty to seek coverage under a NPDES permit. In the alternative, a concentrated animal feeding operation may seek a "no potential to discharge" determination from the director in accordance with rules 901:10-3-01 and 901:10-6-01 to 901:10-6-06 of the Administrative Code.

(F) On and after the date on which the United States environmental protection agency approves the NPDES program submitted by the director, no person shall discharge stormwater resulting from an animal feeding facility unless authorized by a NPDES permit when such a permit is required by the Act and subsequently issued by the director of agriculture pursuant to section 903.08 of the Revised Code.

(G) No person shall violate the terms and conditions of a permit to install, permit to operate, review compliance certificate, or NPDES permit.

(H) No person shall violate any effluent limits established by rule.

(I) No person shall violate any other provision of a NPDES permit issued by the director.

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901:10-1-11 **Exclusions.**

The following discharges do not require NPDES permits:

(A) Discharges of dredged or fill material into waters of the state which are regulated under section 404 of the Act and by the director of environmental protection in accordance with Chapter 6111 of the Revised Code.

(B) The introduction of sewage, industrial wastes, or other pollutants into publicly owned treatment works by indirect dischargers. Plans or agreements to switch to this method of disposal in the future do not relieve dischargers of the obligation to have and comply with NPDES permits until all discharges of pollutants to waters of the state are eliminated. This exclusion does not apply to the introduction of pollutants to privately owned treatment works or to other discharges through pipes, sewers, or other conveyances owned by a state, municipality, or other party not leading to treatment works.

(C) Any discharge in compliance with the instruction of a federal on-scene coordinator, as that term is defined in section 2305.39 of the Revised Code, who is the federal official designated in the national contingency plan pursuant to 40 CFR part 300 (The National Oil and Hazardous Substances Pollution Contingency Plan) or 33 CFR 153.10(e) (Pollution by Oil and Hazardous Substances).

(D) Any introduction of pollutants from nonpoint source agricultural and silvicultural activities, including stormwater runoff from orchards, cultivated crops, pastures range lands and forest lands, but not discharges from concentrated animal feeding operations, discharges to aquaculture projects, and discharges from silvicultural point sources.

(E) Return flows from irrigated agriculture.

(F) Discharges into a privately owned treatment works, except as the director of environmental protection may otherwise require.

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901:10-2-01 **Permit to install: purpose and applicability.**

(A) Purpose and applicability of a permit to install.

(1) No person shall construct a new concentrated animal feeding facility without first obtaining a permit to install issued by the director.

(2) Any person who plans to construct a large concentrated animal feeding operation or a concentrated animal feeding facility or major concentrated animal feeding facility shall comply with applicable rules 901:10-2-01 to 901:10-2-06 of this chapter.

(3) Any animal feeding facility that is a small or medium concentrated animal feeding operation may be required by the director to comply with applicable rules 901:10-2-01 and 901:10-2-03 to 901:10-2-06 of the Administrative Code.

(a) If the director has made a determination that the medium or small animal feeding facility shall be required to be permitted as a medium or small concentrated animal feeding operation; and

(b) If the director determines that the existing animal feeding facility requires modifications in order to comply with best management practices.

(4) A person that is required to obtain both a permit to install pursuant to section 903.02 of the Revised Code and a permit to operate pursuant to section 903.03 of the Revised Code shall submit both applications for those permits simultaneously.

(B) Administrative procedures for a permit to install.

(1) In order to obtain a permit to install, the owner or operator shall submit:

(a) A properly completed application in accordance with paragraph (C) of this rule; and

(b) An appropriate fee as stated in rule 901:10-1-04 of the Administrative Code.

(2) The owner or operator may amend the application for a permit to install prior to the conduct of any public meeting that may be held for the draft permit to install and/or while the permit to install application is pending before the director. Upon completion of construction of the manure storage or treatment facility, the

owner or operator shall submit a notarized statement certifying that the facility was constructed in accordance with the design plans to the department. A copy of the completed and approved as-built plans shall be submitted to demonstrate compliance with paragraph (A) of rule 901:10-2-05 or paragraph (A) of rule 901:10-2-06 of the Administrative Code and shall be submitted for the permanent record. Facilities are required to be inspected by the director or an authorized representative in a timely manner prior to stocking with animals.

(3) The owner or operator shall maintain a copy of the current permit to install issued by the department at the concentrated animal feeding facility's site office. A copy of the completed and approved plans will be kept at the office of the facility.

(4) A permit to install may be modified in accordance with rule 901:10-1-09 of the Administrative Code. The owner or operator shall not modify the concentrated animal feeding facility without obtaining a permit modification.

(C) Contents of an application for a permit to install.

Unless otherwise indicated, an application for a permit to install shall contain the information and criteria as required in rules 901:10-1-02 and 901:10-1-03 of the Administrative Code and shall attach and/or include all of the following information:

(1) The name and address of the applicant, of all partners if the applicant is a partnership or of all officers and directors if the applicant is a corporation and of any other person who has a right to control or in fact controls management of the applicant or the selection of officers, directors or managers of the applicant.

(2) The type of livestock and the number of animals that the concentrated animal feeding facility would have the design capacity to raise or maintain and the anticipated beginning and ending dates for work performed.

(3) A statement of the quantity of water that the concentrated animal feeding facility will utilize on an average daily and annual basis, a detailed description of the basis for the calculation utilized in determining the quantity of the water utilized and a statement identifying the source of the water.

(4) Copies of recorded water well logs on file with the Ohio department of natural resources division of water and their locations within a one thousand foot radius of the manure storage or treatment facility, as located on a map that includes the well locations.

(5) A scaled map adequate to show detail that includes, but is not limited to:

(a) Approximate overall dimensions of the manure storage or treatment facility;

(b) Boundaries of the concentrated animal feeding facility;

(c) Location and siting distances from the manure storage or treatment facility. For purposes of identifying and illustrating the siting criteria, the owner or operator of a large concentrated animal feeding operation or a concentrated animal feeding facility or a major concentrated animal feeding facility is to submit a document that demonstrates compliance with the siting criteria in rule 901:10-2-02 of the Administrative Code; and

(d) Identify the approximate location of all known subsurface drains within one hundred feet of the proposed manure storage or treatment facility.

(6) The report required by paragraph (C) of rule 901:10-2-03 of the Administrative Code, including the information on the soils, ground water sampling and analysis, hydrology, subsurface geology and topography of the land area used for the manure storage or treatment facility based on the subsurface geological exploration conducted in accordance with rule 901:10-2-03 of the Administrative Code. The report may also include site-specific information and conclusions derived from the site's subsurface geological exploration. If required as a result of the subsurface geological exploration conducted pursuant to rule 901:10-2-03 of the Administrative Code, additional groundwater monitoring shall be included.

(7) Designs, plans and detailed engineering drawings for the proposed construction of the concentrated animal feeding facility that comply with rules 901:10-2-04, 901:10-2-05 and/or 901:10-2-06 of the Administrative Code and include the proposed location of the construction site, and design and construction plans and specifications, including anticipated beginning and ending dates for the work performed.

[Comment: Include detailed engineering drawings, for example; cross sections, pipe requirements, concrete or earthwork specifications, illustrations and profiles for construction of the manure storage or treatment facility.]

(8) The precipitation runoff and stormwater grading plans required by rule 901:10-2-04 of the Administrative Code.

(9) Manure characterized in accordance with rules 901:10-2-04 and 901:10-2-10 of the Administrative Code.

901:10-2-01

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901:10-2-02 **Permit to install: siting criteria.**

Manure storage or treatment facilities shall be designed and constructed in accordance with the criteria in paragraphs of (A) to (N) of this rule. In this rule siting means a measure of horizontal or vertical distance for purposes of installing the manure storage or treatment facility.

(A) Water wells, class five agricultural wells together referred to hereinafter as "well".

(1) A fabricated structures shall be at least fifty horizontal feet from a well.

(2) A manure storage pond or manure treatment lagoon shall be at least three hundred horizontal feet from a well.

(B) Source water protection for public water systems.

(1) Public water wells.

(a) A fabricated structure, manure storage pond, and manure treatment lagoon shall not be located within three hundred feet of a well serving a public water system that is owned or operated by the owner or operator of the facility and is a public water system located on the property of the owner or operator of the facility.

(b) A fabricated structure, manure storage pond, and manure treatment lagoon shall not be located within the one-year time-of-travel contour from a well for which the Ohio environmental protection agency has delineated or endorsed a ground water source protection area and that serves a non-community water system not listed in paragraph (B)(1)(a) of this rule. If no ground water source protection area has been delineated or endorsed, then the fabricated structure, manure storage pond, or manure treatment lagoon shall not be located closer than three hundred feet from the well.

(c) A fabricated structure, manure storage pond, and manure treatment lagoon shall not be located within the one-year time-of-travel contour from a well for which the Ohio environmental protection agency has delineated or endorsed a ground water source protection area and that serves a community water system not listed in paragraph (B)(1)(a) of this rule or one thousand feet from a public water well whichever is greater.

(d) A fabricated structure, manure storage pond, and manure treatment lagoon shall not be located between the one-year and five-year time-of-travel contours from a well identified as highly susceptible unless additional

ground water monitoring, or additional engineered controls or both are added, installed, and implemented as approved by the director.

(2) Surface water intake.

(a) A fabricated structure shall be located no closer than one thousand five hundred feet from a surface water intake.

(b) A manure storage pond or manure treatment lagoon shall be installed no closer than one thousand five hundred feet from a surface water intake.

(C) Streams.

(1) A fabricated structure on a concentrated animal feeding facility shall be located a minimum of one hundred twenty horizontal feet from a stream or three hundred horizontal feet from a stream if the fabricated structure is on a major concentrated animal feeding facility.

(2) A manure storage pond or manure treatment lagoon on a concentrated animal feeding facility shall be located a minimum of three hundred horizontal feet from a stream or six hundred horizontal feet if the manure storage pond or manure treatment lagoon is located on a major concentrated animal feeding facility, unless additional design criteria are added, installed, and implemented as approved by the director.

(D) Cold water habitat and seasonal salmonid streams.

(1) A fabricated structure shall be located a minimum of three hundred horizontal feet from a cold water habitat or seasonal salmonid stream, unless additional design criteria are added, installed, and implemented as approved by the director.

(2) A manure storage pond or manure treatment lagoon shall be located a minimum of six hundred horizontal feet from a cold water habitat and seasonal salmonid stream, unless additional design criteria are added, installed, and implemented as approved by the director.

(E) Aquifer.

A fabricated structure, manure storage pond or manure treatment lagoon shall have fifteen vertical feet of low permeability material, between the waste placement location and the uppermost aquifer, unless additional design criteria or groundwater monitoring are added, installed, and implemented as approved by the director. As used in this rule and in Chapter 901:10-2 of the Administrative Code, low permeability material means low permeability among the soil types of geologic material presented in figure 7-11, Chapter 7, "Geologic and Ground Water

Considerations," part 651, "Agricultural Waste Management Field Handbook," June 1999.

(F) Sole source aquifer.

A manure storage pond or manure treatment lagoon shall not be located above a sole source aquifer without design of ground water monitoring or engineered controls or both that are installed and implemented as approved by the director.

(G) Floodplains and floodways.

(1) A manure storage pond or manure treatment lagoon shall not be located in a one hundred year floodplain without design of additional monitoring or engineered controls or both that are installed and implemented as approved by the director and by other appropriate permits.

(2) A manure storage pond or manure treatment lagoon shall not be located in established regulatory floodways as designated by the federal emergency management agency.

(H) Karst areas.

A fabricated structure, manure storage pond or manure treatment lagoon shall not be located in a karst area without design of groundwater monitoring or engineered controls or both that are installed and implemented as approved by the director.

(I) Bedrock.

A fabricated structure, manure storage pond or manure treatment lagoon shall be located a minimum of three feet, between the bottom of the waste placement location and bedrock where no aquifer is present.

(J) Mines.

A manure storage or treatment facility shall not be located in an area of potential subsidence, due to an underground mine known to be in existence prior to the date the application for a permit to install is submitted, without design of groundwater monitoring or engineered controls or both that are installed and implemented as approved by the director.

(K) Property lines, which are defined in this paragraph as property lines not under common ownership of the owner or operator of a facility covered by this rule and public roads.

A fabricated structure, manure storage pond or manure treatment lagoon shall be located no closer than one hundred horizontal feet from a property line or public road.

(L) Neighboring residences.

(1) A manure storage or treatment facility for solid manure at a concentrated animal feeding facility shall be no closer than five hundred horizontal feet from a neighboring residence. The manure storage or treatment facility for solid manure at a major concentrated animal feeding facility shall be no closer than one thousand horizontal feet from a neighboring residence.

(2) A manure storage or treatment facility for liquid manure at a concentrated animal feeding facility shall be no closer than one thousand horizontal feet from a neighboring residence. A manure storage or treatment facility for liquid manure at a major concentrated animal feeding facility shall be no closer than two thousand horizontal feet from a neighboring residence.

(3) When utilizing proven technology, the siting criteria may be reduced by the director by using the list of technologies appended to this rule. The technologies listed in this appendix are not inclusive of all available technologies. Selected technologies are required to be fully described in detail plans and specifications, engineering drawings, and maps that shall be reviewed and approved by the director in deciding whether or not to reduce any applicable siting criteria as a reasonable exercise of the director's discretion.

(M) The siting criteria requirements applicable to a manure storage or treatment facility shall not apply to the criteria set forth in paragraphs (K) and (L) of this rule if the applicant for a permit to install obtains a written agreement from all of the owners of neighboring residences or property owners located closer than the siting criteria. The agreement shall state such owners are aware of the proposed construction and have no objections to such construction. A copy of the written agreement shall be included with the permit to install application.

[Comment: The written agreement may be filed in the register of deeds office of the county in which the neighboring residence is located.]

(N) As used in this rule, additional design for engineered controls includes but is not limited to additional freeboard, secondary containment, additional treatment, increased liner thickness, synthetic liner materials, groundwater monitoring, or design and construction alternatives set forth in paragraph (A)(9)(c) of rule 901:10-2-06 of the Administrative Code.

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Appendix to rule 901:10-2-02 Siting Criteria: How to Determine a Reduction in the Required Criteria

In considering reductions in siting criteria under this rule, the director will consider the use of technologies for manure storage or treatment facilities as characterized and listed in this appendix. The technologies listed are not inclusive of all available technologies. The technologies listed in this appendix are required to be fully described in detailed plans and specifications, engineering drawings, and maps that shall be reviewed and approved by the director in deciding whether or not to reduce any applicable siting criteria as a reasonable exercise of the director's discretion.

Physical Manure Characteristics and Type of Manure Storage or Treatment Facility
1. *Solid Manure
a. Fabricated Structure with odor control (e.g. aeration through the manure pile – High Rise Hog House)
b. Fabricated Structure with composting
c. Fabricated Structure with a cover
2. *Solid or **Liquid Manure
a. Fabricated Structure with temporary (14 days or less) storage
b. Fabricated Structure or Manure Storage Pond with a cover
c. Fabricated Structure, Manure Storage Pond or Manure Treatment Lagoon with energy recovery
3. **Liquid Manure
a. Manure Treatment Lagoon
b. Fabricated Structure with a biofilter – Deep Pit System for Swine
c. Manure Storage Pond with a crust
d. Manure Storage Pond, Manure Treatment Lagoon or Fabricated Structure with a cover
e. Fabricated Structure, Manure Storage Pond or Manure Treatment Lagoon with odor control (e.g. aeration in the Manure Storage Pond or Manure Treatment Lagoon)

Physical Manure Characteristics:
*Solid Manure has greater than 20 % solids
**Liquid Manure has equal to or less than 20 % solids

901:10-2-03 **Geological explorations.**

(A) A subsurface geological exploration shall be conducted prior to installing a fabricated structure. A subsurface geological exploration for a liquid manure fabricated structure shall be conducted under the supervision of an engineering geologist or a professional engineer. A subsurface geological exploration shall determine the following:

(1) For solid manure.

(a) Evaluate the suitability of the soil to provide the appropriate load bearing strength for the proposed fabricated structure by use of a soil survey or by a geological exploration conducted in accordance with this rule. The director may require on-site subsurface geological explorations depending on the soil survey, depth of the structure to be installed below existing grade and type of structural loading of the fabricated structure.

(2) For liquid manure.

(a) Place a minimum of two test pits or borings at regular intervals within a reasonable distance of the boundaries of the fabricated structure, unless more test pits or borings are required by the professional engineer or engineering geologist . The test pits or borings shall extend a minimum of five feet below the planned bottom of the fabricated structure.

(b) Evaluate the suitability of the soil to provide the appropriate load bearing strength for the proposed fabricated structure as set forth in the appendix to rule 901:10-2-05 of the Administrative Code.

(c) Determine soil strength values so that lateral earth pressures can be calculated as set forth in the appendix to rule 901:10-2-05 of the Administrative Code.

(d) Whether the proposed fabricated structure is to be located within a karst area; and

(e) Ground water quality characteristics. Ground water shall be sampled from a well existing at the facility or, if no well exists at the facility, from a well that is constructed in accordance with rule 3701-28-12 of the Administrative Code. A well installed or otherwise approved for use to satisfy the requirements of this rule, shall also be used to satisfy the annual

ground water sampling and analysis required by rule 901:10-2-08 of the Administrative Code.

(f) In the event that the director determines that ground water monitoring shall be required to satisfy the requirements of this rule or rule 901:10-2-02 of the Administrative Code, then a ground water monitoring program shall be designed, installed, and implemented as approved by the director in a permit to install.

(B) Prior to installing a manure storage pond or manure treatment lagoon, a subsurface geological exploration shall be conducted under the supervision of an engineering geologist or a professional engineer for the storage pond or treatment lagoon.

(1) A subsurface geological exploration shall be conducted on each new or expanding manure storage pond or manure treatment lagoon.

(2) The subsurface geological exploration shall be performed within a reasonable distance of the manure storage pond or manure treatment lagoon boundaries, shall include a minimum of four test pits or borings placed at regular intervals and shall determine the following:

(a) The type and hydraulic conductivity of the soil material present from the ground surface to a depth of five feet below the planned bottom of the manure storage pond or manure treatment lagoon;

(b) Suitability of soil material to provide adequate sealing of the bottom of the manure storage pond or manure treatment lagoon and construction of planned embankments;

(c) Whether the proposed manure storage pond or manure treatment lagoon is to be located within a karst area;

(d) Ground water quality characteristics. Ground water shall be sampled from a well existing at the facility or, if no well exists at the facility, from a well that is constructed in accordance with rule 3701-28-12 of the Administrative Code. A well installed or otherwise approved for use to satisfy the requirements of this rule, shall also be used to satisfy the annual ground water sampling and analysis required by rule 901:10-2-08 of the Administrative Code.

(e) In the event that the director determines that ground water monitoring shall be required to satisfy the requirements of this rule or rule 901:10-2-02 of the Administrative Code, then a ground water monitoring program shall be designed, installed, and implemented as approved by the director in a permit to install.

(f) The exploration pits or borings shall extend a minimum of five feet below the planned bottom of the manure storage pond or manure treatment lagoon. Upon completion, any boring or pit used for sampling shall be properly plugged and sealed. Any pit used for sampling that is within the construction boundaries of the concentrated animal feeding facility, the manure storage pond or the manure treatment lagoon shall be restored by the addition of soil compacted in lifts no greater than six inches;

(g) Based on the results of the subsurface geological exploration and determinations by the engineering geologist, professional engineer or the director, additional tests may be required to determine the potential need for a liner and, if necessary, the type of liner to be installed;

(h) The department may require additional subsurface geological explorations depending on the soils and geological formations on site to ensure the protection of the ground water, surface water or the structural integrity of the manure storage pond or manure treatment lagoon. The subsurface geological exploration shall refer to the Ohio department of natural resources, division of water ground water pollution protection (DRASTIC) maps to determine the pollution potential for each site, the pathways of contamination, if any, and whether additional liners are needed to protect water and ground water.

(C) The results of subsurface geological explorations performed in accordance with paragraphs (A) and (B) of this rule shall be included in a report submitted with the facility design plans.

(1) The report shall include but not be limited to:

(a) Location of a facility well, exploration pits and borings plus locations and depths of soil samples;

(b) Available Ohio department of natural resources division of water, water well logs of wells located within a minimum of one thousand feet of the planned manure storage or treatment facility;

(c) Geologic information using either the group classification system by the American association of state highway and transportation officials or the unified soil classification system appended to this rule;

(d) Evidence of seepage or ground water conditions and depths in pits;

(e) Determination of the suitability of in-situ soils for the planned facility, or lining recommendations when the in-situ soils are not suitable;

(f) Recommendation from the laboratory analysis of the compactive effort or soil density, and soil moisture requirements needed during construction to achieve design hydraulic conductivity;

(g) The results of the soil tests; and

(h) An analysis or evaluation that demonstrates that the information provided meets the requirements of rules 901:10-2-01 to 901:10-2-06 of the Administrative Code, and as follows for applicable type of manure storage and treatment facility:

(i) For a solid manure fabricated structure, an analysis or evaluation shall provide the information required by paragraphs (C)(1)(a), (C)(1)(b), (C)(1)(c), and (C)(1)(h) of this rule.

(ii) For a liquid manure fabricated structure, an analysis or evaluation shall provide the information required by paragraphs (C)(1)(a), (C)(1)(b), (C)(1)(c), (C)(1)(d), (C)(1)(g) and (C)(1)(h) of this rule.

(iii) For a manure storage pond or manure treatment lagoon, an analysis or evaluation shall provide the information required by paragraphs (C)(1)(a) to (C)(1)(g) of this rule.

(2) Based on the results of the tests of this rule the professional engineer, engineering geologist, or director may require additional explorations that may include laboratory testing of soils and additional ground water monitoring wells.

(D) Laboratory testing and analysis:

(1) Soil samples taken during the subsurface geological exploration shall be tested in accordance with approved or certified soil testing procedures..

(2) Tests and results reported shall include, but not be limited to, hydraulic conductivity, dry unit weight, Atterberg Limits, and standard compaction with recompaction to achieve design hydraulic conductivity.

(E) Upon request by the owner or operator and subsequent written approval from the department field changes may be made in order to meet site-specific conditions during construction. The owner or operator shall demonstrate that such changes shall be at least as protective of the ground water, surface water and the structural integrity of the manure storage or treatment facility as requirements of this chapter.

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Appendix to rule 901:10-2-03

Soils - Engineering Classification (National Soil Survey Handbook 618.20 - 2001)

The National Soil Survey Handbook and other technical and procedural references provide the standards, guidelines, definitions, policy, responsibilities, and procedures for conducting the National Cooperative Soil Survey in the United States. The following are accepted guidelines for classifying soils.

(a) AASHTO (American Association of State Highway and Transportation Officials) Group Classification

(1) Definition

AASHTO group classification is a system that classifies soils specifically for geotechnical engineering purposes. It is based on particle-size distribution and Atterberg limits, such as liquid limit and plasticity index. This classification system is covered in AASHTO Standard No. M 145-91 (1995) and consists of a symbol and a group index. The classification is based on that portion of the soil that is smaller than 3 inches in diameter.

(2) Classes

The AASHTO classification system identifies two general classifications: (i) granular materials having 35 percent or less, by weight, particles smaller than 0.074 mm in diameter and (ii) silt-clay materials having more than 35 percent, by weight, particles smaller than 0.074 mm in diameter. These two divisions are further subdivided into seven main group classifications. The group and subgroup classifications are based on estimated or measured grain-size distribution and on liquid limit and plasticity index values.

(3) Significance

The group and subgroup classifications of this system are aids in the evaluation of soils. The classifications can help to make general interpretations relating to performance of the soil for engineering uses.

(4) Measurements

Measurements involve sieve analyses for the determination of grain-size distribution of that portion of the soil between a 3 inch and 0.074 mm particle size. ASTM methods D 422, C 136, and C 117 have applicable procedures for the determination of grain-size distribution. The liquid limit and plasticity index values (ASTM method D 4318) are determined for that portion of the soil having particles smaller than 0.425 mm in diameter (No. 40 sieve). Measurements, such as laboratory tests, are made on most benchmark soils and on other representative soils in survey areas.

(5) Estimates

During soil survey investigations and field mapping activities, the soil is classified by field methods. This classification involves making estimates of particle-size fractions and particle-size distribution by a percentage of the total soil, minus the greater than 3-inch fraction. Estimates of liquid limit and plasticity index are based on clay content and mineralogy relationships. Estimates are expressed in ranges that include the estimating accuracy as well as the range of values for the taxon.

(6) Entries

Enter classes and separate them by commas for each horizon, for example, A-7, A-6. Acceptable entries are A-1, A-1-A, A-1-B, A-2, A-2-4, A-2-5, A-2-6, A-2-7, A-3, A-4, A-5, A-6, A-7, A-7-5, A-7-6, and A-8.

AASHTO Group Index

(1) Definition

The AASHTO group and subgroup classifications may be further modified by the addition of a group index value. The empirical group index formula was devised for approximate within-group evaluation of the "clayey granular materials" and the "silty-clay" materials.

(2) Significance

The group index is an aid in the evaluation of the soils. The index can help to make general interpretations relating to performance of the soil for engineering uses.

Under average conditions of good drainage and thorough compaction and recompaction, the supporting value of a material as subgrade may be assumed as an inverse ratio to its group index, that is, a group index of 0 indicates a "good" subgrade material and group index of 20 or greater indicates a "very poor" subgrade material.

(3) Measurement

The group index is calculated from an empirical formula:

$$GI = (F-35)\,[0.2 + 0.005\,(LL-40)] + 0.01\,(F-15)\,(PI-10)$$

where:

F = Percentage passing sieve No. 200

(75 micrometer), expressed as a whole number

LL = Liquid limit

PI = Plasticity index

In calculating the group index of A-2-6 and A-2-7 subgroups, only the PI portion of the formula is used.
Negative group index is reported as zero (0).
For soils that are non-plastic and when the liquid limit cannot be determined, the group index shall be considered zero (0).

(4) Entries

The group index is reported to the nearest integer. If the calculated group index is negative, the group index is zero (0). The minimum index value is 0 and the maximum is 120.

(b) Unified Soil Classification

(1) Definition

The unified soil classification system is a system for classifying mineral and organic mineral soils for engineering purposes based on particle-size characteristics, liquid limit, and plasticity index.

(2) Classes

The Unified Soil Classification System identifies three major soil divisions: (i) coarse-grained soils having less than 50 percent, by weight, particles smaller than 0.074 mm in diameter; (ii) fine-grained soils having 50 percent or more, by weight, particles smaller than 0.074 mm in diameter, and (iii) highly organic soils that demonstrate certain organic characteristics. These divisions are further subdivided into a total of 15 basic soil groups. The major soil divisions and basic soil groups are determined on the basis of estimated or measured values for grain-size distribution and Atterberg limits. ASTM D 2487 shows the criteria chart used for classifying soil in the Unified system and the 15 basic soil groups of the system and the plasticity chart for the Unified Soil Classification System.

(3) Significance

The various groupings of this classification have been devised to correlate in a general way with the engineering behavior of soils. This correlation provides a useful first step in any field or laboratory investigation for engineering purposes. It can serve to make some general interpretations relating to probable performance of the soil for engineering uses.

(4) Measurem

The methods f[illegible]easurement are provided in ASTM Designation D 2487. Measurements involve sieve analysis for the [illegible]rmination of grain-size distribution of that portion of the soil between 3 inches and 0.074 mm in diameter (No. 200 sieve). ASTM methods D 422, C 136, and C 117 have applicable procedures that are used where appropriate for the determination of grain-size distribution. Values for the Atterberg limits (liquid limit and plasticity index) are also used. Specific tests are made for that portion of the soil having particles smaller than 0.425 mm in diameter (No. 40 sieve) according to ASTM methods D 423 and D 424. Measurements, such as laboratory tests, are made on most benchmark soils and on other representative soils in survey areas.

(5) Entries for measured data

For measured Unified data, enter up to four classes for each horizon. ASTM D 2487 provides flow charts for classifying the soils. Separate the classes by commas, for example, CL-ML, ML. Acceptable entries are GW, GP, GM, GC, SW, SP, SM, SC, CL, ML, OL, CH, MH, OH, PT, CL-ML, GW-GM, GW-GC, GP-GM, GP-GC, GC-GM, SW-SM, SW-SC, SP-SM, SP-SC, and SC-SM.

(6) Estimates

The methods for estimating are provided in ASTM Designation D 2488. During all soil survey investigations and field mapping activities, the soil is classified by field methods. The methods include making estimates of particle-size fractions by a percentage of the total soil. The Atterberg limits are also estimated based on the wet consistency, ribbon or thread toughness, and other simple field tests. These tests and procedures are explained in ASTM D 2488. If samples are later tested in the laboratory, adjustments are made to field procedures as needed. Estimates are expressed in ranges that include the estimating accuracy as well as the range of values from one location to another within the map unit. If an identification is based on visual-manual procedures it must be clearly stated so in reporting.

(7) Entries for estimated soils

For estimated visual-manual Unified data, enter up to four classes for each horizon. ASTM D 2488 provides flow charts for classifying the soils. Separate the classes by commas, for example, CL, ML, SC. Acceptable entries are GW, GP, GM, GC, SW, SP, SM, SC, CL, ML, CH, MH, OL/OH, PT, GW-GM, GW-GC, GP-GM, GP-GC, SW-SM, SW-SC, SP-SM, and SP-SC.

Source: National Soil Survey Handbook (2001). USDA-Natural Resources Conservation Service, Washington, DC.

901:10-2-04 **Manure storage and treatment facilities.**

(A) Manure shall be sampled and analyzed in accordance with paragraphs (A) to (D) of rule 901:10-2-10 of the Administrative Code.

(B) As an alternative to presenting site-specific information as required by paragraphs (A)(1) and (A)(2) of rule 901:10-2-10 of the Administrative Code, the owner or operator may characterize manure by using manure data from a facility that is similar to that of the owner or operator or by relying upon existing published or documented data. The owner or operator shall submit this alternative manure data along with the identification of the source of the data.

(C) The owner or operator shall comply with paragraph (B) of rule 901:10-2-10 of the Administrative Code.

(D) General design and construction criteria for a manure storage or treatment facility.

(1) An appropriate design plan shall be required for a new or expanding manure storage or treatment facility.

(2) A manure storage or treatment facility shall be designed and constructed to handle manure volume, precipitation and surface water runoff in a manner that prevents the discharge of manure to waters of the state, except as provided in applicable standards set forth in rules 901:10-3-02 to 901:10-3-06 of the Administrative Code.

(E) Calculating storage volume for manure storage or treatment facilities.

(1) The total storage volume of a manure storage or treatment facility shall not be less than the volume calculated as the summation of the following, unless the owner or operator or the director determines that additional storage capacity is required to meet permit conditions.

(a) Manure generated during the storage period required by rule 901:10-2-05 or rule 901:10-2-06 of the Administrative Code;

(b) Average precipitation less evaporation on the surface area of the manure storage or treatment facility during the storage period;

(c) Normal runoff that drains from the concentrated animal feeding facility's drainage area into the manure storage or treatment facility during the

storage period. Impermeable surfaces shall utilize a minimum factor of fifty per cent of the average precipitation;

(d) A precipitation event based on the surface of the manure storage or treatment facility and applicable standards in rules 901:10-3-02 to 901:10-3-06 of the Administrative Code;

(e) The runoff from a precipitation event that drains from the concentrated animal feeding facility's drainage area into the manure storage or treatment facility based on applicable standards in rules 901:10-3-02 to 901:10-3-06 of the Administrative Code; and

(f) Residual manure after liquids have been removed.

(2) In addition to the requirements in paragraph (E)(1) of this rule, the total storage volume of a manure treatment lagoon shall not be less than the volume calculated using one of the following methods set forth in the appendix to this rule.

(F) Stormwater pollution prevention plans. Each owner or operator of a concentrated animal feeding operation shall prevent pollution of stormwater resulting from an animal feeding facility by submitting plans to satisfy this rule and rule 901:10-3-11 of the Administrative Code to do the following:

(1) Maintain separation of uncontaminated stormwater runoff from contaminated water with designs and installations that include, but are not limited to, settling basins, runoff ponds, liquid impoundments, and areas within berms and diversions;

(a) Grade the area around the livestock buildings and the manure storage or treatment facility;

(b) Divert stormwater runoff and roof water away from the manure storage or treatment facility or other structures in the production area.

(c) Use spill prevention and good housekeeping techniques to ensure that stormwater discharges from the following areas comply with Ohio Water Quality Standards: immediate access roads and rail lines used or traveled by carriers; or raw materials, products, waste materials, or by-products used or created; refuse sites; sites used for storage and maintenance of material handling equipment; sites used for handling material other than manure and shipping and receiving areas.

(d) Install systems that are designed to capture and treat contaminated runoff and prohibit discharge of contaminated discharge. The owner or operator may use the following criteria, provided that in no case shall grassed filter

strips satisfy effluent limitations for large facilities in rules 901:10-3-02 to 901:10-3-06 of the Administrative Code.

(i) The "Ohio Natural Resource Conservation Service, Conservation Practice Standards Section IV, Field Office Technical Guide" which includes the following:

(a) "Pond, No 378," January 2003;

(b) "Constructed Wetland Conservation Practice Standard, No. 656," August 2000, but provided there shall be no discharge;

(c) "Livestock Use Area Protection Practice, No. 757," September 3, 2002;

(d) "Composting Operation, No. 317," May 1, 2000;

(e) "Critical Area Planting, No. 342," June 1, 2002;

(f) "Dike, No. 113," June 1, 2002;

(g) "Diversion, No. 362," June 1, 2002;

(h) "Grade Stabilization Structure, No. 410," May 1, 1988;

(i) "Pipeline, No. 516," June 1, 2002;

(j) "Roof Runoff Structure, No. 558," June 1, 2002;

(k) "Sediment Basin, No. 350," June 1, 2002;

(ii) The "Ohio Livestock Manure And Wastewater Management Guide, Bulletin 604, The Ohio State University Extension, January 1992;" and

(iii) USDA Natural Resource Conservation Service - NHCP.

(2) Construct coverings over any structures in the production area; or

(3) Install vegetative cover and protect stream channels and areas adjacent to such channels from a concentrated animal feeding operation.

(4) The owner or operator may submit plans that implement alternative practices to the director for approval provided that any alternative practices must be demonstrated to be equivalent to the practices listed in subparagraph (F)(1) of this rule unless the owner or operator or the director determine that additional total storage capacity is required to meet permit conditions. All of the practices

listed are subject to the design standards for precipitation events in paragraphs (D) and (E) of this rule.

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Appendix to rules 901:10-2-04 and 901:10-2-10

Manure Production Characteristics

Values are as produced estimations and so not reflect any treatment. Values do not include bedding. The actual characteristics of manure can vary +30% from table values. Increase solids and nutrients by 4% for each 1% feed wasted above 5%.

		Total Measure of Manure Quantity					Total	Volatile		Nutrient Content		
	Size[1]	*Volume and/or Weight of Manure*			Water	Density	Solids	Solids	BOD_2	(lb/day)		
Animal	(lbs)	(lb/day)	(ft/day)	(gal/day)	(%)	(lb/day)	(lb/day)	(lb/day)	(lb/day)	(N)	(P_2O_2)	(K_2O)
Dairy Cattle	150	13	0.20	1.5	88	65	1.4	1.2	0.20	0.05	0.01	0.04
	250	21	0.32	2.4	88	65	2.3	1.9	0.33	0.08	0.02	0.07
Heifer	750	65 1.0		7.8	88	65	6.8	5.8	1.0	0.23	0.07	0.22
Lactating cow 1,000		108	1.7	12.7	88	62	10.0	8.5	1.60	0.58	0.30	0.31
	1,400	148	2.4	17.7	88	62	14.0	11.9	2.24	0.82	0.42	0.48
Dry cow	1,000	82	1.30	9.7	88	62	9.5	8.1	1.20	0.36	0.11	0.28
	1,400	115	1.82	13.6	88	62	13.3	11.3	1.70	0.50	0.20	0.40
Veal	250	9	0.14	1.1	96	62	0.32	0.14	0.22	0.04	0.03	0.06
Beef cattle												
Calf	450	26	0.42	3.1	92	63	3.40	2.88	0.58	0.14	0.10	0.11
High forage	750	62	1.0	7.5	92	62	5.8	5.2	1.05	0.41	0.14	0.25
High forage	1,100	92	1.4	11.0	92	62	8.5	7.6	1.50	0.61	0.21	0.36
High energy	750	54 0.87		6.5	92	62	4.2	3.9	1.0	0.38	0.14	0.22
High energy	1,100	80	1.26	9.5	92	62	6.2	5.7	1.50	0.54	0.21	0.32
Cow	1,000	63	1.00	7.5	88	63	7.70	6.00	1.40	0.31	0.19	0.26
Swine												
Nursery	25	2.7	0.04	0.3	89	62	0.27	0.22	0.09	0.02	0.01	0.01
Grow-Finish	150	9.5	0.15	1.2	89	62	1.0	0.90	0.30	0.08	0.05	0.04
Gestating	275	7.5	0.12	0.9	91	62	0.69	0.59	0.23	0.05	0.04	0.04
Lactating	375	22.5	0.36	2.7	90	63	2.25	2.03	0.75	0.18	0.13	0.14
Boar	350	7.2	0.12	0.9	91	62	0.66	0.59	0.23	0.05	0.04	0.04
Sheep	100	4.0	0.06	0.4	75	63	1.10	0.91	0.10	0.04	0.02	0.04
Poultry												
Layer	4	0.26	0.004	0.031	75	65	0.065	0.049	0.015	0.0035	0.0027	0.0016
Broiler	2	0.18	0.003	0.021	74	63	0.047	0.034	0.010	0.0023	0.0014	0.0011
Turkey	20	0.90	0.014	0.108	75	63	0.225	0.171	0.066	0.0126	0.0108	0.0054
Duck	6	0.33	0.005	0.040	73	62	0.089	0.053	0.012	0.0046	0.0038	0.0028
Horse	1,000	50	0.80	5.98	78	63	11.00	9.35	1.40	0.28	0.11	0.23

[1] Weights represent the average size of the animal during the stage of production.

Source: MWPS-18 (1) *Manure Characteristics* (2000). MidWest Plan Service. Iowa State University: Ames, IA.

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901:10-2-05 **Fabricated structures.**

(A) Fabricated structures shall be designed and maintained to prevent discharge to ground waters or surface waters.

(1) Fabricated structures for liquid manure shall be designed by or under the supervision of a professional engineer or shall be an appropriate design plan, as defined in paragraph (G) of rule 901:10-1-01 of the Administrative Code.

(2) A fabricated structure shall be designed and constructed to meet the requirements in paragraph (A) of rule 901:10-2-03, paragraphs (A)(10) and (A)(11) of rule 901:10-2-06 of the Administrative Code and the appendix to this rule.

(3) Storage period. The minimum storage period for a fabricated structure shall be one hundred twenty days, unless otherwise approved by the department. Additional storage may be required by the department in order to ensure protection of groundwater, surface water or the structural integrity of the fabricated structure.

(4) Freeboard. A fabricated structure shall be designed and maintained to have an operating level that does not exceed the level that provides adequate storage to contain a precipitation event plus an additional six inches of freeboard, except for fabricated structures that contain solid manure and are not subject to precipitation or runoff.

(5) Fabricated structures for liquid manure shall have a liquid level board, staff gauge, depth marker, or other appropriate device approved by the director, installed within the interior to monitor manure levels.

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Appendix to rule 901:10-2-05 Fabricated Structure.

Foundation.

Proportion the foundation of a fabricated structure to safely support all superimposed loads without excessive movement or settlement.

If a non-uniform foundation cannot be avoided or applied loads may create highly variable foundation loads, calculate the settlement from site specific soil test data as defined in rule 901:10-2-03 of the Administrative Code. The owner or operator may also utilize an appropriate design plan as defined in paragraph (E) of rule 901:10-1-01 of the Administrative Code.

To eliminate potential uplift pressures, install a drainage system entirely around the foundation, discharged by gravity or a sump pump. Large structures may require additional drains at intermediate depths.

Structural Loading.

Design structures to withstand all anticipated internal and external loads including: hydrostatic and uplift pressure, concentrated surface and impact loads, any loading associated with water, and combination loads. Design the structure in compliance with this standard and applicable local building codes.

The lateral earth pressure should be calculated from soil strength values determined from the results of soil tests conducted in accordance with rule 901:10-2-03 of the Administrative Code. Lateral earth pressures can be calculated using the procedures in Technical Release 74. If soil strength tests are not available, use the presumptive lateral earth pressure values in Table 2.

Assign lateral earth pressures based upon equivalent fluid assumptions according to the structural stiffness or wall yielding as follows:

- *Rigid frame or restrained wall:* Use the values shown in Table 2 under the column "Frame Tanks", which gives pressures comparable to the at-rest condition.
- *Flexible or yielding wall:* Use the values shown in Table 2 under the column "Freestanding Wall", which gives pressures comparable to the active condition. Walls in this category are designed on the basis of gravity for stability or as a cantilever having a base wall thickness to height of backfill ratio not more than 0.085.

When manure is not protected from precipitation, design for an internal lateral pressure of 65psf. When manure is protected from precipitation and will not become saturated, design for 60psf internal lateral pressure. Use lesser values if supported by actual pressure measurements of the manure to be stored. If heavy equipment will be operated near the wall (within 5 ft), design for a 100psf horizontal surcharge.

Design tank covers to withstand both dead and live loads. Use the minimum live load values for covers contained in ASAE EP378.3, Floor and Suspended Loads on Agricultural Structures Due to Use, and in ASAE EP393.2, Manure Storage. Use the actual axle load for tank wagons having more than 2,000 gallon capacity.

If the facility is to have a roof, snow and wind loads shall be as specified in ASAE EP288.5, Agricultural Building Snow and Wind Loads. If the facility is to serve as part of a foundation or support for a building, consider the total load in the structural design. The minimum wind and snow loading for Ohio is: wind load, basic velocity pressure = 20 psf and snow load = 20 psf.

Structural Design.

For structural design, consider all items that will influence the performance of the structure, including loading assumptions, material properties, and construction quality. Indicate the design assumptions and construction requirements on the plans.

anks may be designed with or without covers. Covers, beams, or braces that are integral to structure erformance must be indicated on the construction drawings. Design openings in covered tanks to accommodate equipment for loading, agitating, and emptying. Equip these openings with grills or secure covers for safety. Consider solid covers if odor and vector control is necessary.

Underlay all structures with free draining material or locate the footing below the anticipated frost depth.

Table 2 - Lateral Earth Pressure Values[1]

Soil		Equivalent Fluid Pressure (lbs./sq.ft./ft. of depth)			
Description[4]	Unified Classification[4]	Above Seasonal High Water Table[2]		Below Seasonal High Water Table[3]	
		Free Standing	Wall Frame	Tanks	Free Standing Wall
- Clean gravel, sand or sand-gravel mixtures (maximum 5% fines)[5]	GP, GW, SP, SW	30	50	80	90
- Gravel, sand, silt and clay mixtures (< 50% fines) - Course sands with silt and/or clay (< 50% fines)	All gravel/sand dual symbol classifications and GM, GC, SC, SM, SC-SM	35	60	80	100
- Low-plasticity silts and clays with some sand and/or gravel (> 50% fines) - Fine sands with silt and/or clay (< 50% fines)	CL, ML, CL-ML, SC, SM, SC-SM	45	75	90	105
- Low to medium plastic silts and clays with little sand and/or gravel (> 50% fines)	CL, ML, CL-ML	65	85	95	110
- High plasticity silts and clays (liquid limit > 50)[6]	CH, MH		-	-	-

[1] For lightly compacted soils (85% to 95% maximum standard density). Includes compaction by use of typical farm equipment.
[2] Also below seasonal high water table if adequate drainage is provided. [3] Includes hydrostatic pressure.
[4] All definitions and procedures are in accordance with ASTM D-2488 and D-653.
[5] Generally, only washed materials are in this category.
[6] Not recommended. Requires special design criteria.

Other minimum requirements. Structures must be designed and constructed to be watertight or leakproof and in accordance with an appropriate design plan as that term is defined in paragraph (E) of rule 901:10-1-01.

Slabs on Grade.

Design slabs considering the required performance and the critical applied loads. The subgrade material must be evaluated as to the suitability and denseness. A 4-inch thick layer of crushed gravel or limestone shall be provided as a uniform subbase. Where the subgrade is uniform and dense, a Type S-1 concrete slab is acceptable. Type S-2 concrete slabs shall be used where the subgrade material is non-uniform or has variable density, and it is not economical or feasible to improve the subgrade. The subgrade thickness in question is generally 12 inches, but could be more, depending on the soil profile. Type S-3 concrete slabs shall be used when the contraction joint spacing is to be more than 15 feet, when no contraction joints are wanted, when reduced seepage is required, or when a water-tight slab is required. Type S-3 concrete slabs without contraction joints, shall be used under the following conditions:

- Slabs installed as a component of a liquid or slurry manure storage facility
- Slabs installed as a component of a solid or semi-solid manure storage facility, where seepage that could occur with a Type S-1 or Type S-2 slab has potential of polluting groundwater, and cannot be captured for treatment.

Design criteria for Type S-1, S-2 and S-3 concrete slabs is found in the NRCS Concrete Construction specification (210-VI-EFLH, Amend OH-18. March 6, 2000).

901:10-2-06 **Manure storage pond and manure treatment lagoon.**

(A) A manure storage pond or manure treatment lagoon subject to this rule shall be designed and the plans stamped by a professional engineer. The following design and construction criteria shall be followed:

(1) No known subsurface drainage line shall be allowed to remain within fifty feet of the outside toe of any manure storage pond or manure treatment lagoon unless necessary to comply with paragraph (A)(9)(a) of this rule. Subsurface drainage lines in the immediate area of the manure storage pond or manure treatment lagoon shall be removed or relocated to provide for a minimum separation distance of not less than fifty feet between the top inner perimeter of the manure storage pond or manure treatment lagoon and the subsurface drainage line.

(2) If not already installed at the facility, a liquid level board, staff gauge, depth marker, or other appropriate device, approved by the director, shall be installed within the interior of the liquid manure storage pond or manure treatment lagoon to monitor manure levels. The liquid level board, staff gauge, depth marker, or other appropriate device in a manure treatment lagoon shall include the elevation at the liquid level corresponding to the summation of the residual manure volume and minimum storage or treatment design volume and shall be designated as the stop pumping elevation. The liquid level board or staff gauge or depth marker in a manure treatment lagoon shall have readily visible permanent markings indicating the summation of the residual manure volume and minimum storage or treatment design volume, and shall be designated as the start pumping elevation.

(3) Agitation and pump-out points shall be shown on plans for a manure storage pond and a manure treatment lagoon with scour protection required.

(4) An emergency spillway may be included at the one foot freeboard level and shall be directed to a specifically designed filter strip or infiltration areas if the facility is constructed with an earthen embankment.

(5) Embankments.

(a) The minimum embankment top width shall be eight feet for embankments less than fifteen feet, ten feet for embankments ranging in height from fifteen to less than twenty feet, and twelve feet for embankments ranging from twenty to twenty-five feet high, as measured from the low point on the downstream toe to the top of the dam.

(b) If the embankment is to be traversed by farm equipment, the minimum top width shall be twelve feet. The height of the embankment shall be no greater than twenty-five feet, as measured from the low point on the downstream toe to the top of the dam.

(c) Embankments shall have side slopes not steeper than two horizontal to one vertical.

(d) The combined side slopes of settled embankments shall not be less than five horizontal to one vertical.

(e) Vegetative cover shall be established on any exposed embankment and mowed or otherwise maintained to control erosion or other embankment deterioration. In the alternative, the Director may approve other means or materials to control erosion.

(6) Inlets and outlets.

(a) Inlets shall be designed to resist corrosion, plugging and freezing.

(b) The embankment may contain no outlet piping that extends through the embankment unless the piping discharges to another facility or is a component of a re-circulating flush system.

(c) All pipes for manure transfer or manure flush systems shall have watertight joints in accordance with the following ASTM standards:

(i) ASTM D3212-Standard specification for joints for drain and sewer plastic pipes using flexible elastometric seals; or

(ii) ASTM C443-Standard specification for joints for concrete pipe and manholes, using rubber gaskets; or

(iii) Other standards recommended by the professional engineer and approved by the department.

(7) Storage period.

The minimum storage period of manure for a manure storage pond and manure treatment lagoon shall be one hundred eighty days of manure production unless alternative use and design is otherwise approved by the department. This section is not intended to address the surface water runoff where the runoff does not enter into the pond or lagoon.

(8) Freeboard.

Freeboard shall be provided for a manure storage pond and manure treatment lagoon in addition to the total storage volume such that the elevation of the emergency spillway or top of the settled embankment, if there is no designed emergency spillway, shall be less than the level that provides adequate storage to contain a precipitation event as required in rules 901:10-3-02 to 901:10-3-06 of the Administrative Code, plus an additional one foot of freeboard.

(9) Liners.

The owner or operator shall include the use of a liner as part of the manure storage pond or manure treatment lagoon that achieves a hydraulic conductivity of at least one times ten to the minus seven centimeters per second (1 X 10 -7 cm/sec) to insure the integrity of the manure storage pond or manure treatment lagoon. A minimum of three feet of in situ soils with a hydraulic conductivity of one times ten to the minus seven centimeters per second will satisfy this requirement. The following design and construction criteria shall be followed:

(a) Ground water seepage shall be prevented from entering the bottom of the manure storage pond or manure treatment lagoon after construction by installing and/or maintaining a liner with a minimum liner thickness of three feet of in situ soil between the top of the seasonal high ground water surface and the bottom of the manure storage pond or manure treatment lagoon. In order to meet this requirement the ground water surface may be lowered by use of subsurface drainage lines that are properly designed by the engineering geologist or professional engineer and approved by the director.

(b) Soil liners shall be designed and constructed using procedures in section 651.1080 of the "United States Department of Agriculture, Natural Resources Conservation Service Agricultural Waste Management Field Handbook, Chapter Ten, Geotechnical Design and Construction, November 1997," and "United States Department of Agriculture, Ohio Natural Resources Conservation Service, Section IV, Field Office Technical Guide Conservation Practice Standard 521-F, Pond Sealing and Lining, Compacted Earth Liner. December 2001." A soil liner thickness shall be a minimum of three feet.

(c) Design and construction alternatives for ground water protection.

(i) As a result of the subsurface geological exploration conducted pursuant to rule 901:10-2-03 of the Administrative Code and the findings of the report submitted in accordance with that rule, an engineering geologist, professional engineer or the director may determine that installation of an additional liner is required to insure the integrity of the manure storage pond or manure treatment lagoon and to protect groundwater.

(ii) If an additional or alternative liner protection is required as set forth in paragraph (9)(c)(i) of this rule, then one or more of the following may be required by the director:

(a) Concrete liners that have a minimum thickness of five inches and shall include non-metallic water stops for all joints;

(b) Flexible plastic membranes that are installed under the supervision of the manufacturer or the manufacturer's representative and include written certification that the liner was installed in accordance with the manufacturers recommendations.

(c) Geosynthetic clay liners that are installed under the supervision of the manufacturer or the manufacturer's representative and include written certification that the liner was installed in accordance with the manufacturer's recommendations; or

(d) Other liner designs or materials will be considered at the discretion of the director if the minimum criteria of this paragraph of this rule are met.

(10) As required by rule 901:10-2-02 of the Administrative Code, installation of a manure storage pond or manure treatment lagoon in a one hundred year flood plain is prohibited unless accompanied by design or engineered controls that are designed and constructed as approved by the director and in accordance with the following:

(a) The manure storage pond or manure treatment lagoon embankments shall be designed and constructed to withstand the hydrostatic pressures from a one hundred year flood that may be exerted on the embankments during a flood event;

(b) The elevation of the lowest point on the embankment shall be at the summation of the elevation of the one hundred year flood plus a minimum freeboard height of two feet;

(c) For a manure storage pond or manure treatment lagoon with unequal length and width dimensions, the facility shall be oriented with the longest dimension parallel to the expected direction of floodwater flow;

(d) Any monitoring wells installed pursuant to this rule shall be physically protected from the floodwaters.

(11) Design and construction criteria for a manure storage pond or manure treatment lagoon located in a karst area.

(a) Manure storage ponds or manure treatment lagoons may be constructed within a karst area provided that the facility is designed to prevent seepage of manure to groundwater.

(b) Any portion of a manure storage pond or manure treatment lagoon located below the pre-construction soil surface level and constructed in a karst area shall be designed and constructed utilizing a rigid material such as concrete or steel or a properly designed clay or synthetic liner, when appropriate, upon findings in the geologic exploration.

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Appendix to rule 901:10-2-06 Manure Treatment Lagoon.

Single Stage Lagoon

As used in this appendix the term "lagoon" refers to "manure treatment lagoon" as defined in paragraph (BBB) of rule 901:10-1-01 of the Administrative Code. The total storage volume shall be based on the storage period selected by the owner or operator which shall be a minimum of six months as required by paragraph (A)(7) of rule 901:10-2-06 of the Administrative Code. The method for sizing total volume storage is based on the Rational Design Standard for Anaerobic Livestock Lagoons (Barth 1985). The owner or operator may choose to design and construct a single stage lagoon, a two-stage lagoon, or a manure storage pond followed by a manure treatment lagoon. If the owner or operator chooses either the two-stage lagoon or the manure storage pond and lagoon, then the owner or operator is required to calculate two lagoon volumes for comparison. The first volume is based on the maximum volatile solids loading rate for minimum treatment (MTV), plus the anticipated manure residual volume (mrV). The second is based on the volatile solids loading rate required to control odors and is called the Odor Control Volume (OCV). Precipitation plus liquid inputs shall be added to the larger of the two volumes to arrive at the total volume of the lagoon.

Summation of precipitation plus liquid input volumes to be added to a single stage lagoon:

1. Manure residuals water volume.
2. Precipitation less evaporation.
3. 25-year, 24-hour precipitation event volume on the surface, unless volume is for a facility subject to the requirements of paragraph (D) of rule 901:10-3-06 of the administrative code.
4. With a drainage area (DA), as that term is used in paragraph (E)(1)(c) of rule 901:10-2-04 of the Administrative Code, included, add the following:
5. Normal runoff that drains from the concentrated animal feeding facility's drainage area into the manure treatment lagoon during the storage period. Impermeable surfaces shall utilize a minimum factor of fifty per cent of average precipitation.
6. 25-year, 24- hour precipitation event runoff from the DA, unless volume is for a facility subject to the requirements of paragraph (D) of rule 901:10-3-06 of the administrative code.

The minimum treatment volume (MTV) is determined by dividing the daily volatile solids (VS) loading by a maximum volatile solids loading rate per unit volume (MLRV) times the activity ratio, K, for the location: MTV = VS/(MLRV)(K).

The following are MLRV's to be used for design:

Swine	MLRV=0.0062 lb/ft$_3$-day
Dairy	MLRV=0.0105 lb/ft$_3$-day
Poultry	MLRV=0.0062 lb/ft$_3$-day

The minimum manure residual accumulation period shall be 7 years, preferably 20 years, or the expected life of the facility. Manure residual volume is based on the Total Solids (TS) entering the lagoon multiplied by the manure accumulation residual multiplied (mrAR) by the number of years: mrV = (TS/yr) x mrAR x YEARS.

The following are manure residual accumulation ratios (mrAR) to be used for design:

High Concentrate Rations (Swine, Beef)	mrAR=0.0485 ft3/lb (TS)
High Forage Rations (Dairy, Beef)	mrAR=0.0729 ft3/lb (TS)
Poultry	
Layers	mrAR=0.0295 ft3/lb (TS)
Pullets	mrAR=0.0455 ft3/lb (TS)

The OCV is determined by dividing the daily volatile solids (VS) loading by a standardized loading rate, (LRV), times the activity ratio (K) for the location: OCV = VS/(LRV)(K). The following are LRV's to determine odor control volumes:

Swine	LRV=0.00378 lb/ft3-day
Dairy	The OCV for dairy and beef lagoons shall be equal to the MTV
Poultry	LRV=0.00253 lb/ft3-day

Lagoon activity ratios (K) are based on lagoon reaction rates throughout the United States. Ohio counties are listed as follows:

Findlay Area		**Medina Area**	
County	**Kvalue**	**County**	**Kvalue**
Allen	0.56 Ashland		0.56
Auglaize	0.57 Ashtabula		0.54
Crawford	0.56	Columbiana	0.57
Defiance	0.55 Cuyahoga		0.54
Fulton	0.54 Erie		0.54
Hancock	0.56 Geauga		0.54
Hardin	0.57 Huron		0.55
Henry	0.54 Lake		0.53
Lucas	0.54 Lorain		0.54
Marion	0.57 Mahoning		0.56
Morrow	0.57 Medina		0.55
Ottawa	0.54 Portage		0.55
Paulding	0.55 Richland		0.56
Putnam	0.56 Stark		0.56
Sandusky	0.54 Summit		0.55
Seneca	0.55 Trumbull		0.55
Van Wert	0.56	Wayne	0.56
Williams	0.54		
Wood	0.54		
Wyandot	0.56		
		Dayton Area	
Coshocton Area		Butler	0.61
Belmont	0.59 Champaign		0.59
Carroll	0.57 Clark		0.59

Coshocton	0.58	Clermont	0.63
Guernsey	0.59 Clinton		0.61
Harrison	0.58 Darke		0.59
Holmes	0.57 Fayette		0.61
Jefferson	0.58 Greene		0.60
Knox	0.58 Hamilton		0.62
Licking	0.59 Logan		0.58
Monroe	0.60 Madison		0.59
Morgan	0.61 Mercer		0.57
Muskingum	0.59	Miami	0.59
Noble	0.60 Montgomery		0.60
Perry	0.60 Preble		0.60
Tuscarawas	0.57	Shelby	0.58
Washington	0.61	Union	0.58
	Warren		0.61

Chillicothe Area			
Adams	0.64		
Athens	0.62		
Brown	0.64		
Delaware	0.58		
Fairfield	0.60		
Franklin	0.59		
Gallia	0.64		
Highland	0.62		
Hocking	0.61		
Jackson	0.63		
Lawrence	0.65		
Meigs	0.63		
Pickaway	0.60		
Pike	0.63		
Ross	0.62		
Scioto	0.64		
Vinton	0.62		

Two stage lagoon/pond (sizing)

First Stage
(MTV + mrV).

Second Stage (The summation of the following:)

1. MTV (Based on VS loading at the overflow or estimates of the VS loading from the first stage effluent.)
2. Manure volume.
3. Manure water volume.
4. Precipitation less evaporation (figured from the surface of stage 1 and stage 2.)
5. 25-year, 24-hour precipitation event from the surface of stage 1 and 2 unless volume is for a facility subject to the requirements of paragraph (D) of rule 901:10-3-06 of the administrative code.

With a drainage area (DA), as that term is used in paragraph (D)(1)(c) of rule 901:10-2-04 of the Administrative Code, included, add the following:

6. Normal runoff that drains from the concentrated animal feeding facility's drainage area into the manure treatment lagoon during the storage period. Impermeable surfaces shall utilize a minimum factor of fifty per cent of the average precipitation.
7. 25-year, 24-hour precipitation event runoff from the DA unless volume is for a facility subject to the requirements of paragraph (D) of rule 901:10-3-06 of the administrative code.